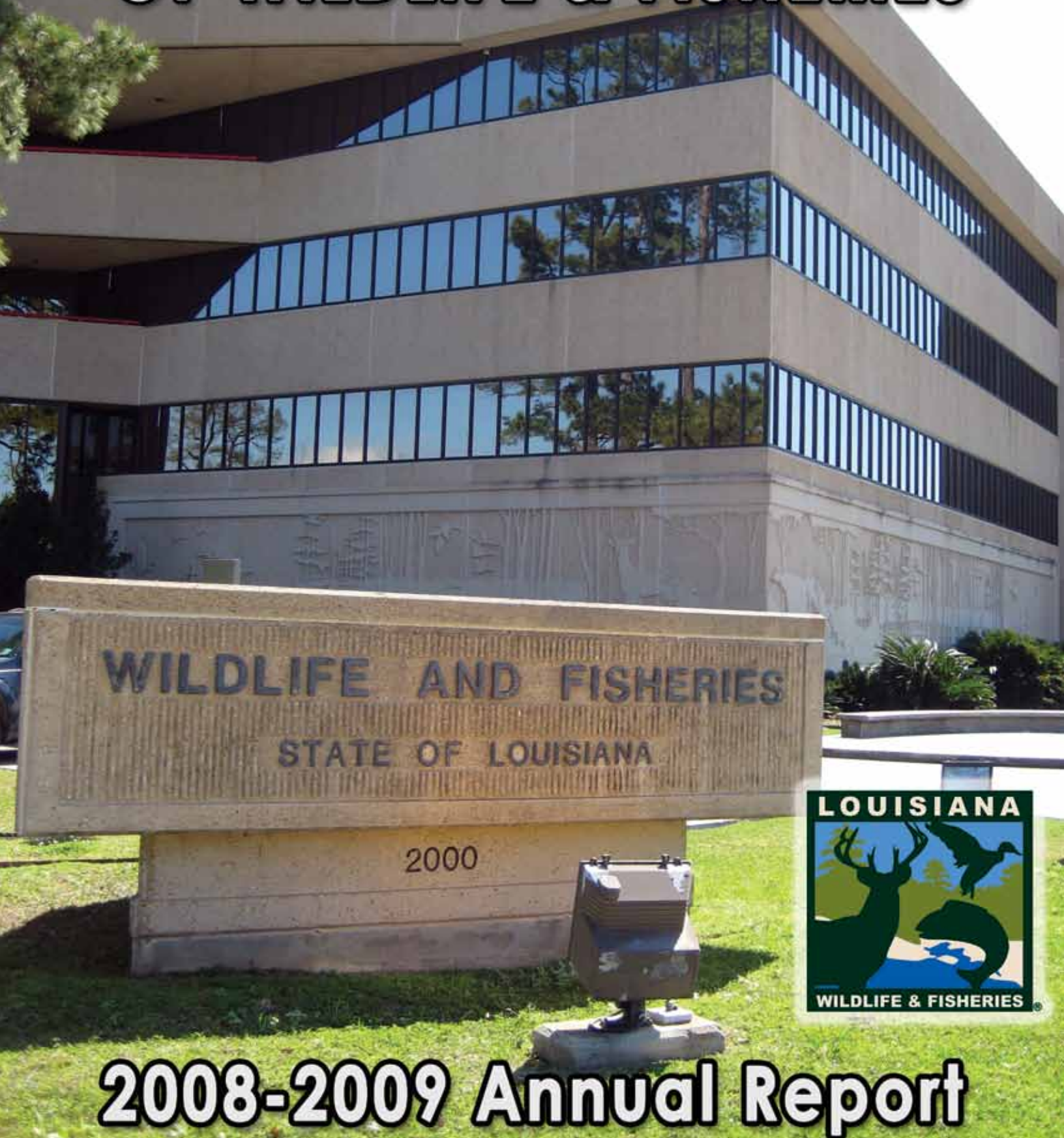


LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



2008-2009 Annual Report



BOBBY JINDAL, GOVERNOR
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Stephen Sagrera

Earl P. King, Jr.

Ann L. Taylor

Ronald Graham

Michael C. Voisin

(Administration for fiscal year 2009-2010.)

The charge of the Louisiana Department of Wildlife and Fisheries is to protect, conserve and replenish the natural resources, wildlife and aquatic life of the state.

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FROM THE SECRETARY

Hurricanes Gustav and Ike, which came ashore in September of 2008, presented a new layer of challenges for the Louisiana Department of Wildlife and Fisheries (LDWF).

Ongoing fisheries recovery programs and facility repairs at LDWF's coastal offices were still underway in the aftermath of hurricanes Katrina and Rita in 2005. The 2008 storms brought more of the same devastation along the coast, but the department and the state benefitted from lessons learned in 2005.

Citizens heeded the evacuation warnings in 2008 and LDWF's Enforcement Division conducted far fewer search and rescue missions than Katrina and Rita made necessary three years prior. The Office of Fisheries' federal recovery fund distribution programs in place were adapted to the new needs resulting from 2008 storm damage. Procedures that worked most efficiently were utilized and fishermen applying for assistance better understood the process.

Additional to hurricane recovery, the department continued to move forward with projects that enhance our conservation mission efforts and service to the public.

In February 2009, a new regional office was opened in Minden to better serve northwest Louisiana. Department staff can now conduct lab work, host public meetings, instruct hunter education classes and complete student firearm proficiency testing right there on department property. In April, a property donation brokered through the Conservation Fund added 1,700 acres to Maurepas Swamp Wildlife Management Area in St. John the Baptist Parish.

Throughout fiscal year 2008-2009, the Aquatic Plant Control Program treated thousands of acres of inland waterways for invasive aquatics, utilizing nearly \$8 million for the added herbicide and spray crews needed to slow the spread of hydrilla, water hyacinth, common salvinia and giant salvinia.

The agency's new marine research lab on Grand Isle was opened in June of 2009, providing permanent facility space for fisheries biologists displaced by Hurricane Katrina and a new base of operations for Enforcement Division personnel in the region. And on the same day, Elmer's Island in Jefferson Parish was re-opened for public recreational use.

Progress continues to be made on habitat restoration and increased public access to the outdoors. It is my hope that the worst Gulf hurricane seasons in recent history are behind us and this agency can focus on habitat management full time in the years ahead.



Robert Barham, *Secretary*

COMMONLY USED ABBREVIATIONS

CWD - Chronic Wasting Disease

CWPPRA - Coastal Wetlands Planning, Protection and Restoration Act

DMAp - Deer Management Assistance Program

FEMA - Federal Emergency Management Agency

GSMFC - Gulf States Marine Fisheries Commission

LADT - Louisiana Antlerless Deer Tag

LARP - Louisiana Artificial Reef Program

LDAF - Louisiana Department of Agriculture and Forestry

LDEQ - Department of Environmental Quality

LDHH - Department of Health and Hospitals

LDNR - Louisiana Department of Natural Resources

LDWF - Louisiana Department of Wildlife and Fisheries

LSU - Louisiana State University

LSUCFI - Louisiana State University Coastal Fisheries Institute

NAWCA - North American Wetland Conservation Act

NMFS - National Marine Fisheries Service

NOAA - National Oceanic and Atmospheric Administration

OEP - Office of Emergency Preparedness

SEAMAP - Southeast Monitoring and Assessment Program

UNO - University of New Orleans

USACE - United States Army Corps of Engineers

USGS - United State Geological Survey

USDA - United States Department of Agriculture

USFWS - United States Fish and Wildlife Service

USCG - United States Coast Guard

WMA - Wildlife Management Area

This public document was printed at a cost of \$901. 100 copies of this document were printed in this first and only printing. This document was printed by the Department of Wildlife and Fisheries, 2000 Quail Drive, Baton Rouge, LA 70808 to provide an account of the department's activities during the fiscal year. This document was printed in accordance with the printing standards for state agencies established pursuant to R.S. 43:31.

Regulations of the U.S. Department of the Interior strictly prohibit unlawful discrimination on the basis of race, gender, national origin, age, or handicap. Any person who believes he or she has been discriminated against in any program or activity operated by a recipient of federal assistance should write to: Director, Office of Equal Opportunity, U.S. Department of the Interior, Washington D.C. 20240.



OFFICE OF SECRETARY

The Office of Secretary is administered by LDWF's chief administrative officer, who oversees all scientific operations as organized by the Office of Wildlife and the Office of Fisheries. The Secretary also has ultimate authority over the operation of LDWF's fiscal and business matters as administered by the Office of Management and Finance. Support operations of LDWF report directly to the Secretary. These include the Enforcement Division and the Seafood Promotion and Marketing Board, as well as LDWF's Legal Section.

ENFORCEMENT DIVISION

The Law Enforcement Division is responsible for enforcing laws enacted by the Louisiana Legislature relative to fish and wildlife resources and boating safety regulations, as well as federal regulations pertaining to migratory birds and endangered species.

LOUISIANA SEAFOOD PROMOTION & MARKETING BOARD

The Louisiana Seafood Promotion and Marketing Board was created by the Louisiana Legislature with the purpose of enhancing the public image of commercial fishery products, promoting the consumption of these products and assisting the seafood industry. According to the mission statement, the board assistance is to twofold: product promotion through advertising programs and public image enhancements; and market development by better utilizing existing markets and establishing new market opportunities.

LEGAL SECTION

The Legal Section represents the department and the Wildlife and Fisheries Commission in all legal matters involving promulgation, enforcement and administration of the state's fish and game laws and regulations, litigation involving department programs, daily advise and counsel and drafting of contracts, legal documents and legislation.

ENFORCEMENT

The Law Enforcement Division is responsible for enforcing laws enacted by the Louisiana Legislature relative to fish and wildlife resources and boating safety regulations, as well as federal regulations pertaining to migratory birds and endangered species.

The Louisiana Department of Wildlife and Fisheries Law Enforcement Division (LDWF/LED) is a fully-commissioned statewide law enforcement agency with the primary mission of protecting Louisiana's natural resources and serving the people who utilize them. Beyond the traditional role of ensuring compliance with licensing and harvesting regulations, LDWF/LED also conducts search and rescue missions, enforces boating safety laws, investigates boating and hunting accidents and provides boater education classes for thousands of citizens each year.

LDWF/LED conducted 342,875 patrol hours in fiscal year 2008-2009: 211,420 on land and 131,455 on water. Agents made 700,527 contacts with the public, the majority of whom were in compliance with state and federal wildlife and fisheries regulations. LDWF/LED agents issued 17,450 criminal citations and 4,715 warnings during this period. The most common types of citations were fishing without a license, failure to comply with rules and regulations on WMAs, littering and failure to comply with personal flotation device regulations.

ORGANIZATIONAL STRUCTURE & PERSONNEL

LDWF/LED is organized in a paramilitary structure to assure the efficient use of resources, consistent statewide enforcement policy and an effective, coordinated response to urgent needs (*Figure 1*). LDWF/LED is commanded by one colonel, the Chief of Enforcement, who reports directly to LDWF's Secretary. Reporting to the colonel are two lieutenant colonels: one supervising search and rescue and field operations; and one overseeing administration of the division and the operations of the Aviation Section and serving as LDWF's legislative liaison. There are two majors, one over the northern section of the state and one over the coastal section, and a captain over the Bureau of Operations which includes boater safety education programs, Special Operations Section, Special Investigations Unit and Statewide Strike Force.

Louisiana is divided into nine enforcement regions (*Figure 2*), each composed of two or three multi-parish districts. Each region is managed by a captain, who supervises two or three district supervisors of the lieutenant rank. Regions have between 16-25 agents, depending on regional size, resident population and participant population.

LDWF LAW ENFORCEMENT DIVISION ORGANIZATION CHART

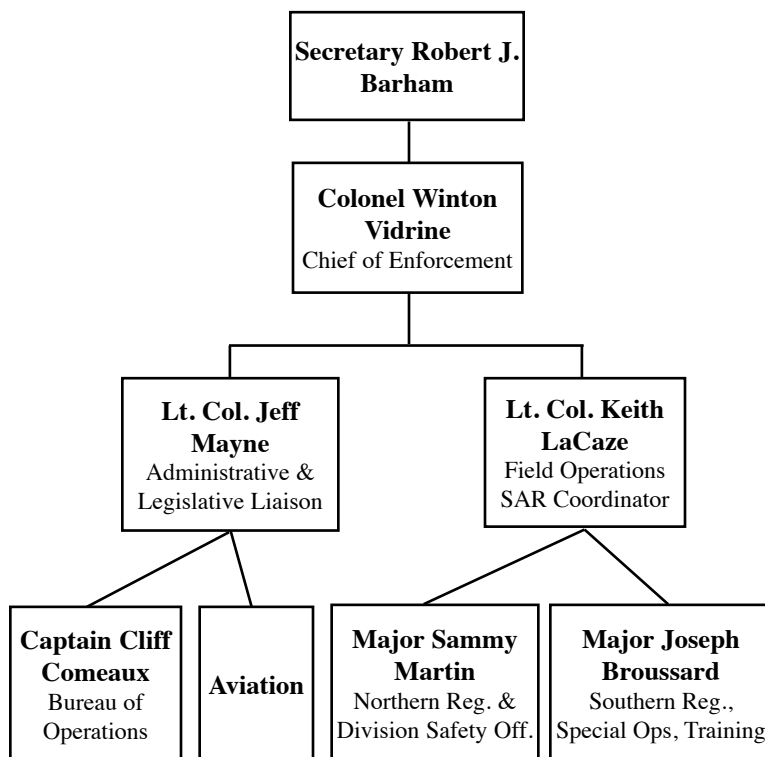


FIGURE 1.

ENFORCEMENT DIVISION REGIONS

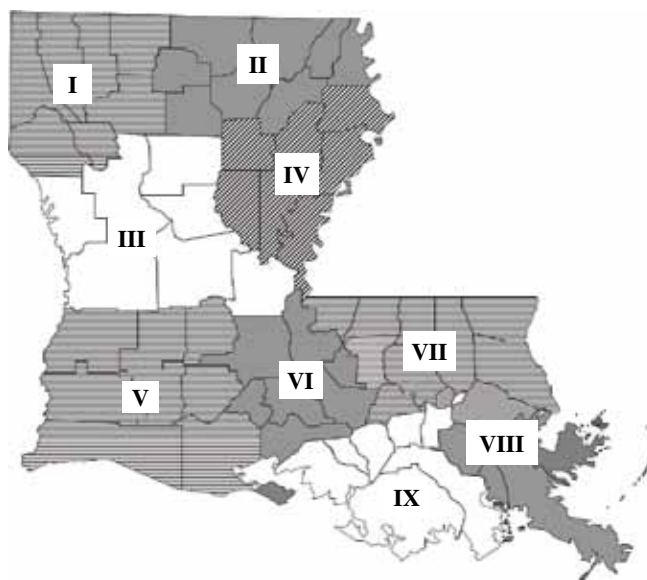


FIGURE 2. Approximate Map of Louisiana Department of Wildlife and Fisheries Law Enforcement Division Regions.

Total division head count is 257 positions, with an average of 10-20 vacancies at any given time due to retirement, resignation, etc. The actual number of filled positions (as of February 2010) is 257, including 233 enforcement agents and 24 administrative staff including six communications officers and two pilots.

Current funding provides a field enforcement staff of two to four agents per parish, according to the nature of wildlife-based activities in the area, the number of people participating, the frequency of their participation and other factors.

Though LDWF/LED has managed to maintain a high level of performance despite the reduction in the number of law enforcement agent positions, there are concerns that further reductions may compromise the ability to accomplish the division's goals of resource conservation, law enforcement and public safety (*Figure 3*).

REGIONAL ENFORCEMENT PROGRAMS

Most of the law enforcement activity performed by LDWF/LED is conducted by regional agents. Regional agents work a schedule assigned by their supervisors to address seasonal needs, reported violations, weather conditions and predominant activities. Agents are on-call 24 hours per day and must be willing to change their work hours and locations as circumstances require. Schedules are often changed due to weather and reported violations, and agents are often called out to respond to violations in progress, boating and hunting accidents and calls for search and rescue.

Agents use a variety of vehicles during land patrols, primarily four-wheel drive trucks and all-terrain vehicles (ATVs or 4-wheelers). The primary patrol vessels used during water patrols are outboard bay boats and 19-to-32-foot marine patrol vessels. LDWF/LED also deploys go-devils, airboats, surface river mudboats, bass boats and flatboats.

SPECIALIZED UNITS

LDWF/LED contains five specialized units with selected missions or purposes: the Special Operations Section; the Special Investigations Unit; the Oyster Strike Force; the Statewide Strike Force; and the Aviation Section. Agents in specialized units have developed specific skills, expertise and knowledge appropriate for their particular operational fields. Agents in specialized units operate in relatively broad geographic areas and may work alongside regional enforcement agents when appropriate.

The Special Operations Section houses covert operations, in which undercover agents work to stem the illegal sale of fish and wildlife, develop information about ongoing criminal enterprises and address major violations of state and federal law.

The Special Investigations Unit devotes attention to commercial fisheries operations and license fraud. Violations include smuggling, interstate commerce violations and



FIGURE 3. Louisiana Department of Wildlife and Fisheries Law Enforcement Division Agents Positions: fiscal year 1988-1989 to fiscal year 2008-2009

false reporting and under-reporting of commercial fish harvests.

The Oyster Strike Force works with region agents in coastal regions to address violations in the oyster industry, primarily harvesting from closed waters, stealing from oyster leases and state grounds and oyster size regulations.

The Statewide Strike Force is assigned to work problem areas statewide. These agents provide regions with additional manpower on WMAs and places of high seasonal utilization, such as Grand Isle and other locations throughout the state.

The Aviation Section contains two pilots and three airplanes. The Aviation Section's aircraft provide a valuable platform for detecting illegal hunting and fishing activities and frequently play a vital life-saving role in search and rescue operations. The Aviation Section also contributes its services to other divisions for biological missions, such as waterfowl counts and the monitoring of commercial fisheries.

BOATING SAFETY PROGRAM

With 15,000 miles of tidal coastline, 5,000 miles of navigable waterways, three of the busiest ports in the country, a thriving shipping industry, a large commercial fishing fleet and over 300,000 registered boats, Louisiana contains many geographic, demographic and economic features that pose special challenges for boating safety enforcement. LDWF/LED agents made 249,616 public contacts during the course of 95,771 patrol hours dedicated to boating enforcement, education and accident investigation in fiscal year 2008-2009. More than 79,991 patrol hours were performed in vessels on the water.

The adoption of "Rules of the Road" regulations for boaters has enhanced the enforcement of boating safety regulations and boating under the influence laws. These regulations provide the boating public with clear rules for the manner in which boats are operated and are an important tool in determining fault in boating accidents. The "Rules of the Road" also enhance the ability of agents to address reckless and careless operation of motorboats. In fiscal year 2008-2009, LDWF/LED agents issued 171 citations for careless and reckless operation of a vessel and 156 citations for operating a vessel while intoxicated.

The statewide LDWF/LED boater education course teaches safe, legal and responsible boat operation and is approved by the National Association of State Boating Law Administrators. This program provides a vital outreach to the community that has greatly improved the awareness of and compliance with boating safety practices and regulations in Louisiana. Agents hold monthly classes in each region for anyone who wishes or is required by Louisiana law to take them. In fiscal year 2008-2009, 5,072 citizens attended 220 classes, less than the previous fiscal year due to hurricanes Gustav and Ike. LDWF/LED continues to recruit and train additional volunteer instructors to complement and enhance the efforts of its own agents.

Agents provided 17,131 patrol hours of search and rescue services, both on land and water, in fiscal year 2008-2009. These operations have saved lives, reduced the suffering of accident victims, stranded hunters, boaters and anyone else needing assistance, and minimized the anxiety for family members eager to learn the fate of their loved ones. Agents regularly train to hone their search and rescue skills and constantly work to develop close working relationships with other agencies to coordinate response efforts.

AGENT TRAINING PROGRAM

The Wildlife and Fisheries Law Enforcement Academy graduated nine agents in fiscal year 2008-2009. The academy trains and certifies cadets in a wide variety of areas, including the Peace Officers Standards and Training Council certification required of all law enforcement officers. Cadets live at the academy during the week and experience a boot camp-style program, with daily physical training in addition to classroom activities. There are many hands-on courses, such as waterfowl enforcement practices, boat operation and firearms training. Each cadet is equipped with a laptop computer with the capability for networking through the Internet for access to web-based courses and research sites.

Cadets receive training in numerous courses of study and are certified in 10 courses of training conducted by FBI-certified trainers from LDWF/LED and expert trainers from a number of other agencies. LDWF/LED personnel conduct training in standardized field sobriety testing, basic marine theft, basic defensive tactics, collapsible baton techniques, wildlife agents' aquatic survival and chemical weapon indoctrination. The Louisiana State Police provides training in chemical testing for insobriety.

The Louisiana State Police Highway Safety Division leads classes in DWI detection, and the Department of Public Safety conducts a Louisiana Safe Driver's Course.

JOINT ENFORCEMENT AGREEMENT

LDWF/LED again entered into a Joint Enforcement Agreement with National Oceanic and Atmospheric Administration's Office for Enforcement. LDWF/LED received approximately \$1,469,000 in fiscal year 2008-2009 to patrol for compliance with federal commercial and recreational fisheries regulations, primarily in the Gulf of Mexico. Several patrol vessels and other necessary equipment have been acquired under this program. Agents have been very successful identifying illegal and unregulated fishing activity and obtaining a number of large cases involving commercial and recreational violations.

OPERATION GAME THIEF

Louisiana Operation Game Thief, Inc. is a program which provides cash rewards to those providing information leading to the apprehension of wildlife violators. Violations can be reported anonymously by accessing LDWF's Web site (www.wlf.louisiana.gov) or by calling a 24-hour toll-free telephone number (1-800-442-2511) maintained in the LDWF Communications Center. Reports are immediately referred to agents for action. The callers may remain anonymous.

Rewards totaling \$10,000 were paid on 45 cases. The total amount of rewards paid by Operation Game Thief since its inception 25 years ago is \$263,800.

HOMELAND SECURITY

LDWF/LED is an active participant in Louisiana's Homeland Security Plan and represents the state in waterborne emergencies. Through the Office of Emergency Preparedness, LDWF/LED is the lead agency for search and rescue operations during natural disasters and maritime security of Louisiana's vital business and government interests along the coast and major rivers. As members of the Governor's Homeland Security Advisory Council, the Area Maritime Security Executive Steering Committee and all major port security committees within the state, LDWF/LED enforcement agents frequently respond to requests to deploy LDWF marine resources for security concerns. LDWF/LED specialized training and equipment and its ability to operate throughout the state's vast maze of waterways and wild areas has complemented Louisiana's ability to respond to emergencies on land and water.

LDWF/LED has developed a five-year maritime security strategic plan in order to provide direction and guidance for the expansion of its mission to include maritime security. This role further advances coordination efforts between the United States Coast Guard, Louisiana State Police, federal, state, ports and local government and private partnerships to increase the efficiency and effectiveness of maritime safety and security and all hazards response for Louisiana and our nation. This expansion is necessary in order to meet the needs and threats that we are faced with in Louisiana's maritime domain.

LDWF/LED recently created the Louisiana Maritime Security Working Group in order to provide better communication and coordination between the multiple regional layers of security on the state's waterways, so that we can safely and effectively support these layers at the state level. LDWF/LED is also a member of the First Responder Committee through GOHSEP which was legislatively created. The LDWF/LED's maritime security role coincides as a multi-mission responsibility and further enhances the agency's core mission responsibilities: to improve public safety services and protect natural resources and the supporting ecosystem while improving security in the state and nation.

MARITIME SEARCH & RESCUE COURSE

Since the devastating landfalls of hurricanes Katrina and Rita, several law enforcement agencies across Louisiana have recognized the vital need to train officers in all aspects of search and rescue (SAR), especially maritime search and rescue. LDWF/LED, as the primary agency for SAR in the state, received several requests from law enforcement agencies to share the benefit of its wide experience in the area by providing maritime SAR training to their officers.

In 2007, the Louisiana Peace Officers Standards and Training Council granted LDWF/LED approval to offer the Maritime Search and Rescue Course (MSARC) to qualified POST-certified peace officers. The 40-hour MSARC was designed and implemented to train other law enforcement officers in such areas as marine SAR, Louisiana Emergency Operation Plans (ESF-9 SAR), navigation rules, vessel handling, waterborne arrest techniques and more. During fiscal year 2008-2009 three MSARC courses were offered by LDWF/LED.

LOUISIANA SEAFOOD PROMOTION & MARKETING BOARD



In fiscal year 2008-2009, the Louisiana Seafood Promotion and Marketing Board (LSPMB) focused on their continued efforts to encourage the residents of Louisiana to buy seafood locally, as well as reaching beyond state lines to introduce other markets to Louisiana seafood and show the rest of the country why Louisiana seafood is superior in quality and taste.

In 2008-2009 LSPMB hosted or participated in more than 20 outreach opportunities and events. This was in addition to the visitors of our Web site, which helps consumers and wholesalers locate recipes and suppliers. In total, more than 350 million people were reached through these events and targeted messaging.

The 2008 year began with the fifth annual Great American Seafood Cook-Off featuring top chefs from across the United States and the third annual Louisiana Alligator Soirée which features Louisiana culinary school students. Both events are held at the Louisiana Restaurant Association's Food Service EXPO. The theme for the 2008 Great American Seafood Cook-Off was "Five Star Chefs," and there was an incredible amount of talent. Fifteen chefs from around the United





States participated in the 2008 competition. Mississippi's own Chef John Currence took home the crown and was named the King of American Seafood, but coming in at a close second was Louisiana's own Chef Brian Landry of Galatoire's Restaurant in New Orleans.

In the fall, LSPMB participated in the New Orleans Seafood Festival held on Fulton Street in the French Quarter. This festival features Louisiana seafood dishes from premiere New Orleans restaurants and the festival has become a tourist destination and a favorite for locals. In addition to delicious Louisiana seafood dishes, the festival features chef demonstrations, where area chefs show members of the audience how to recreate these dishes at home. The festival also features chef demonstrations, showing members of the audience how to prepare fantastic seafood dishes at home.

January was the annual Oyster Walk the Hill week in Washington, D.C. Representatives from the oyster industry traveled to Washington, D.C. to meet with legislators, and to educate them on the importance of the oyster industry and what it means for our state, both culturally and economically. There were also plenty of oysters for guests to sample at two events which were hosted by the Gulf Oyster Industry Council, "Let the World Be Your Oyster" and "Louisiana Alive." Both events showcase Louisiana oysters to congressional representatives, national media and other political leaders of our country.

An Oyster Education Day was also held in January for members of the Louisiana legislature. This educational day, is spent on the water on an oyster luger. Oyster harvesters and biologists show congressional members the process for harvesting oysters and the long hours and difficult work that are required by oyster fishermen. Legislators see firsthand how important the oyster industry and all Louisiana seafood industries are for the culture and economics of our state

LSPMB kicked off the spring with their annual trip to the Boston Seafood Show where staff and industry representatives met with seafood sales personnel from across the globe to discuss the high value and quality of Louisiana seafood. In April, the annual Oysters Jubilee was held in the French Quarter. This event features the world's longest Louisiana oyster po'boy. The po'boy is 340 feet long, and spectators line up for blocks hoping to get a piece of this special po'boy, which is divided into sections with a different local restaurant getting to dress each section. The po'boy features more than 5,000 Louisiana oysters.

In April, the oyster eating challenge was held at the French Quarter Festival. In front of a crowd of thousands, Sonya "the Black Widow" Thomas, a member of the competitors eaters league, returned to claim her crown by eating 29 dozen oysters in eight minutes.

May brought in the first shrimp of the Louisiana spring shrimp season in a celebration called "Bonne Crevette." LSPMB partnered with Rouses Markets and OMNI Bank for this year's delivery of the first shrimp of the season to



renowned Louisiana chefs. More than 15 chefs were on hand to receive the first shrimp of the season from LSPMB, and following the press conference, a block party Louisiana shrimp boil was held by Rouses markets for the audience to enjoy.

At the end of the May, LSPMB hosted three events. The first was our annual Legislative Day in Baton Rouge. This event gives legislators the opportunity to meet with seafood industry representatives in a casual environment while sampling delicious Louisiana seafood prepared by various restaurant sponsors. This year's Legislative Day was held on the lawn of the Governor's Mansion.

The second event was our second annual Louisiana Seafood Cook-Off, which took place at the New Orleans Wine and Food Experience held at the Louisiana Superdome on May 23. Twelve Louisiana chefs battled it out for the title of King or Queen of Louisiana Seafood in front of a crowd of 2,000 spectators. Taking home the prize was Chef Tory McPhail of Commander's Palace. Tory went on to represent and win the Great American Seafood Cook-Off held in July 2009.

Rounding out an exciting May was the Chrome Louisiana Seafood Kitchen held at the inaugural New Orleans Bike Week. Top chefs from around the area were paired with the country's top bike builders to see who could create the most noteworthy dish. It was the duo led by Duke LoCicero of Café Giovanni that took home the prize.

In June, LSPMB joined with partners to host the third annual Louisiana Seafood Festival in New Orleans, and even the summer heat could not keep the crowds away. Festival goers feasted on Louisiana seafood from a vari-

ety of vendors and listened to local Cajun and Zydeco music sponsored by the Jazz and Heritage Foundation. Two years ago, the Louisiana Seafood Festival joined the Creole Tomato Festival and the Cajun-Zydeco Festival in weekend of festival fun called "A New Orleans Vieux to Do."

For the upcoming year, LSPMB will continue its mission to assist fishermen by promoting and marketing Louisiana seafood while introducing new concepts and ideas to ensure Louisiana seafood to be a brand that is synonymous with quality and freshness.

In fiscal year 2008-2009 the *Louisianaseafood.com* Web site was completely redesigned, with a launch date for 2010. The refurbished site will be better organized and updated with the latest Louisiana seafood information, from recipes to suppliers. The supplier database makes it easy for consumers, retailers and wholesalers to locate quality Louisiana seafood suppliers based on the type and amount of Louisiana seafood that someone is looking for. The recipe section is also expanded with the option to not only view Louisiana seafood recipes from popular restaurants and chefs, but also allows visitors to upload their own recipes to share their favorite Louisiana seafood dish with the world.





OFFICE OF MANAGEMENT & FINANCE

The Office of Management and Finance is directed by the Undersecretary. This budget unit is responsible for the functions of accounting, budget forecasting and control, procurement and contract management, administrative services, information technology services, management and program analysis (including strategic and operational planning), socioeconomic research and analysis, property control (including fleet management), boat registration, human resources management, federal grant reporting, administration and issuing of licenses and permits, collection of fees, taxes, fines and penalties, public information and the Louisiana Conservationist magazine.

COMPUTER CENTER

The Computer Center oversees LDWF's information processing resources.

FISCAL

The Fiscal Section is responsible for all financial operations of LDWF.

HUMAN RESOURCES

The Human Resources section handles all employee personnel actions and employee benefits, develops policies and procedures, conducts training and new employee orientation, administers the performance planning and review program and LDWF's safety program.

LICENSING

The Licensing Section administers the issuance of all licenses and most other permits and is responsible for the collection and deposit of related fees.

PUBLIC INFORMATION

The Public Information Section is responsible for the production of printed materials and audio-visual products, media relations and special events and promotions.

PROPERTY CONTROL

The Property Control Section is responsible for LDWF's movable property program, fleet management program and managing property, marine, general liability, aviation and vehicle insurance claims.

SOCIOECONOMIC RESEARCH & DEVELOPMENT

The Socioeconomic Research & Development Section conducts economic research pertaining to wildlife and fishery resources, provides support to other LDWF programs, and represents LDWF on various study groups, task forces and committees.

COMPUTER CENTER

The Computer Center is responsible for maintaining the Louisiana Department of Wildlife and Fisheries' (LDWF) information processing resources. The center operates three mainframes and 26 Intel based Windows servers. The Computer Center supports 598 desktop computers and 322 laptops in 30 locations throughout the state and supports and maintains the network infrastructure that ties them all together. We offer training, help desk support, custom programming, database services, Email services, Internet access, user data backup for headquarter users, statistical analysis tools for biologists and imaging services for Human Resources, Licensing and Fisheries.

In addition, the Computer Center has developed the mainframe applications necessary to sell and maintain commercial licenses, motorboat registrations, hunting/boating safety, Alligator System and Lottery System. On the Intel platform, we developed and maintain the Enforcement application that allows us to track citations, as well as the magazine system that tracks the *Louisiana Conservationist* magazine subscription information, Motorboat registrations and titling systems that allows us to issue registrations and titles for every boat in Louisiana.

The Computer Center, along with our Public Information section, maintains LDWF's public Web server, which contains information on hunting rules and regulations, season dates, licensing information, emergency closures and much more.

TECHNICAL SUPPORT SECTION

The Technical Section, which consists of four employees and one student, supports 598 desktop computers and 322 laptops throughout the state. In the last 10 years, the number of personal computers that LDWF utilizes has grown from under 25 to over 800. Keeping these machines maintained and secure is one of the Technical Section's biggest challenges. Each of these machines must have regular updates applied and have certain software installed and updated (anti-virus, spyware).

Providing general help desk support for these computers occupies a large portion of a tech's time. For fiscal year 2008-2009, the technical section fielded 7,342 non-trivial telephone support calls, configured, built or relocated 606 computers/printers and answered 11,094 emails on hardware and software support issues. Technical calls can be as simple as helping with an expired password, to helping with software problems/re-installations, or as complicated as helping repair and diagnose failed hardware. The technical staff must travel regularly to most of LDWF's remote facilities to perform this maintenance on machines.

The Technical Section maintains three mainframes and 38 Windows-based servers. Each of the mainframes/servers must be given daily maintenance. This includes not only keeping the operating systems and utility software up to date, but also providing regular backups for all critical data to prevent loss. Loss of data can come from simply losing a disk drive, losing entire computers or being hacked. Catastrophic loss of data can come from fire, flood, terrorism or other causes that would impact the entire organization. In addition, data can be lost through human error such as inadvertently deleting records that shouldn't be deleted. All these risks must be mitigated. Primarily this is done through daily backups of all pertinent data. Everyday all critical data on our servers are backed up and stored off-site. We also attempt to back up the majority of our user's important data that is stored on their hard drives.

Maintenance also includes keeping all the critical software that runs on the servers up to date and functional. The services we provide include things such as E-mail, databases, anti-virus protection, Web-services and network operating system services/security. All these software packages are regularly updated. Training to keep up with these updates could easily become a constant activity.

Accomplishments during fiscal year 2008-2009 include:

- Upgraded production mainframe's disks, raid controller and operating system to ensure continuing maintenance and to allow for encrypted tape backups.
- Encrypted all agency laptops to enhance security and prevent loss of data in the event of theft.
- Upgraded the existing Storage Area Network to increase disk capacity.
- Standardized on remote tracking/recovery software for all new laptops.
- Upgraded the Blackberry server and all devices to be compliant with the latest software versions.
- Upgraded all timekeepers to the newest version of SAP software.
- Installed a dedicated server for recreational license sales reporting.
- Expanded virtual server environment to add additional server capacity and fault tolerance.
- Currently installing cellular boosters in all conference rooms to allow use of cell based phone and data devices in these locations.
- Completed mapping network drives to all headquarters computers and established procedures to users to back up their data to the network.
- Upgraded all servers' backup software to allow encrypted tape backups for offsite storage.

Finally, the Technical Section is responsible for maintaining the underlying network infrastructure that allows all

the computers to communicate with one another. This involves monitoring the network for problems and diagnosing and repairing network routers, switches, hubs, VPN concentrators and telephone data circuits (local and for all remote facilities). Included with this is guarding the network from internal and external threats (hackers/viruses) and maintaining Internet connectivity for all internal users.

APPLICATION DEVELOPMENT SECTION

The Application Development Team consists of six employees and is responsible for maintaining all custom written applications and new application development. Our applications run on a combination of mainframe and Windows server environments. Current applications that the staff has developed and supports include:

- Web based Enforcement system for issuing and tracking violations.
- Enforcement complaint system.
- Enforcement time sheet system.
- Enforcement revocations system.
- Enforcement seafood inspection system.
- Motorboat application for issuing motorboat registrations and titles.
- Commercial License application for issuing commercial fishing licenses for LDWF.
- Magazine system for tracking the in-house *Conservationist* magazine.
- Training application for keeping track of mandatory and supervisory training.
- Zip code lookup application.
- Alligator system for tracking all alligators processed commercially in Louisiana.
- DPS system for looking up DMV records for residency validation.
- Lottery application to chose participants in the randomly drawn hunts.
- Hunter and Boating Education system for keeping track of participants in the mandatory hunter education program. It provides the public with the ability to request a duplicate hunting safety or boating safety card online and receive online fulfillment.
- Revocation system for keeping track of individuals that may not purchase licenses.
- Sports License (lifetime license printing).
- Web-based displaced boat lookup (to help public locate lost boats).
- Web-based DMAP, system for keeping track of deer management applications.
- Web-based Oyster Tag sales system.
- Trip Ticket employee performance system.
- Legal application for tracking legal rulings and information.
- Track commercial fishing shipments from/to the state for the Enforcement Division.
- Employee Portal application used by employees to launch other LDWF developed web-based applications.
- JEA Patrol System to keep track of Enforcement officer's contact information with vessel operators and dealers.

IMAGING SECTION

The Imaging Section consists of three employees and is tasked with scanning and indexing LDWF documents which include:

- Federally mandated Trip Ticket data (from commercial dealers, used in tracking commercial harvest information).
- Boating Safety applications.
- Hunter Safety applications.
- Bow hunter student applications.
- Enforcement complaint forms.
- Enforcement time sheets.
- Enforcement seafood inspection forms.
- Motorboat registrations & renewals (new and backlog).
- Motorboat revenue checks.
- Other revenue checks.
- Shrimp Excise Tax forms. (This helps our accounting division keep track of excise tax monies).
- Monthly submission forms.
- Crab Shedder forms.
- Commercial Fisherman surveys.
- Seafood Dealer surveys.
- Lifetime Licenses (new and backlog).
- Electronic Signature logs.

The Imaging Section takes requests from Louisiana seafood dealers in person, on the phone, by mail and by fax. These orders can be very time consuming as they often need to explain the variety of forms and their usage. The 2004-2005 hurricane season damaged/destroyed many seafood dealer locations. The imaging section continues to work with dealers destroyed by hurricanes Katrina and Rita. The section is constantly preparing the much needed information to supply over 2,000 maintenance packets and over 1,000 new dealer packets each month.

The Imaging Section not only scans a vast number of documents for the agency, but verifies and corrects the data as well. This is very tedious work due to the wide ranges of handwriting and poor conditions of the forms when they arrive. In addition to scanning duties, the Imaging Section runs nightly reports for LDWF's applications systems and helps compile and print reports for the Public Information, Enforcement, Commercial License, Hunter Safety, Motorboat and Recreational License sections.

The system that the Imaging Section staff maintains is used by the Motorboat section to image and archive all motorboat applications/renewals. Human Resources also images every employee document into the system. The imaging system cuts back drastically on the amount of paper documents that must be maintained, making it possible for instantaneous search/retrieval of these documents and allows multiple HR analysts to access the same records concurrently and securely.

FISCAL

The Fiscal Section staff consists of 17 employees who are responsible for all financial operations of LDWF. The main goal of the Fiscal Section is to achieve compliance with all applicable laws, rules, policies and regulations governing the functions managed. This section develops and implements fiscal controls, provides advice, assistance and training and standardizes procedures. In addition, the Services Unit provides mail, receiving and duplicating services for the headquarters offices.

The functions include:

- budget and expenditure control and monitoring.
- federal grant tracking and reporting.
- preparation of all required financial reports.
- reviewing and processing professional and consulting contracts.
- payment of all vendors.
- receipt and classification of various sources revenue.
- fund management.
- assessment of civil fines.
- telecommunications services.
- processing of employee travel reimbursements.
- liability insurance reporting.
- administration of the state's travel card.
- procurement.
- administration of the state's purchasing card.
- mail/receiving/duplicating.
- strategic and operational planning.
- management of FEMA projects.

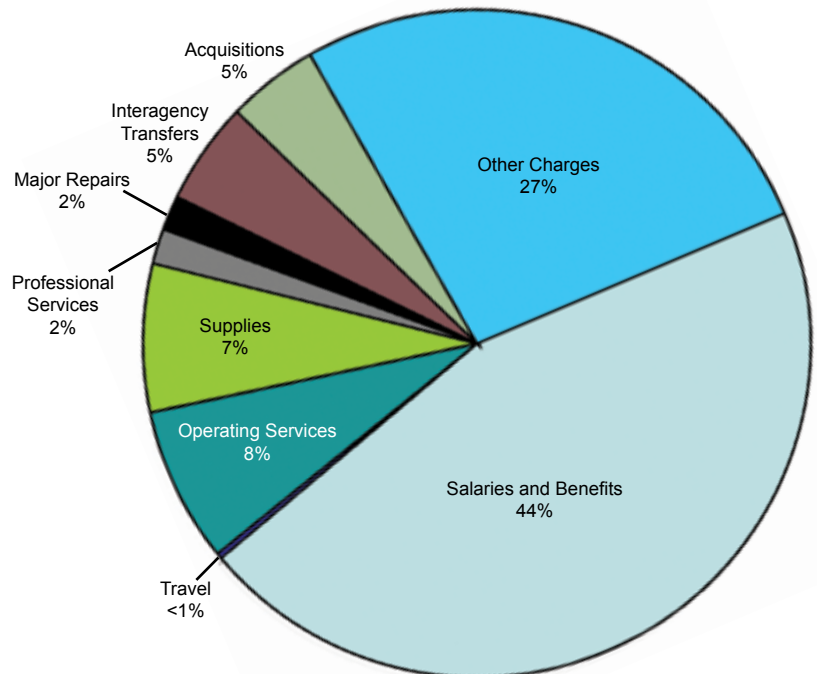
During fiscal year 2008-2009, the Fiscal Section staff:

- prepared four agency budgets consisting of six programs totaling \$175.3 million.
- reviewed 223 new contracts with a total amount payable of \$21.2 million.
- worked on three request for proposals totaling \$5.1 million.
- processed 541 payments on contracts for \$10.9 million.
- responded to 266 requests for telecommunications services and repairs.
- processed two telecommunications projects.
- processed 9,594 vendor payments.
- audited and processed 4,747 purchasing card statements.
- audited and processed 2,377 travel reimbursements.
- warranted funds and prepared periodic reports for 113 federal grants.
- deposited \$80.2 million in receipts from various sources on 401 pay in vouchers.
- handled 59 leases of equipment and buildings.
- maintained 672 state purchasing card accounts.
- processed over 325,000 pieces of mail.

Fiscal Year 2008-2009 LDWF Expenditures by Category (type)

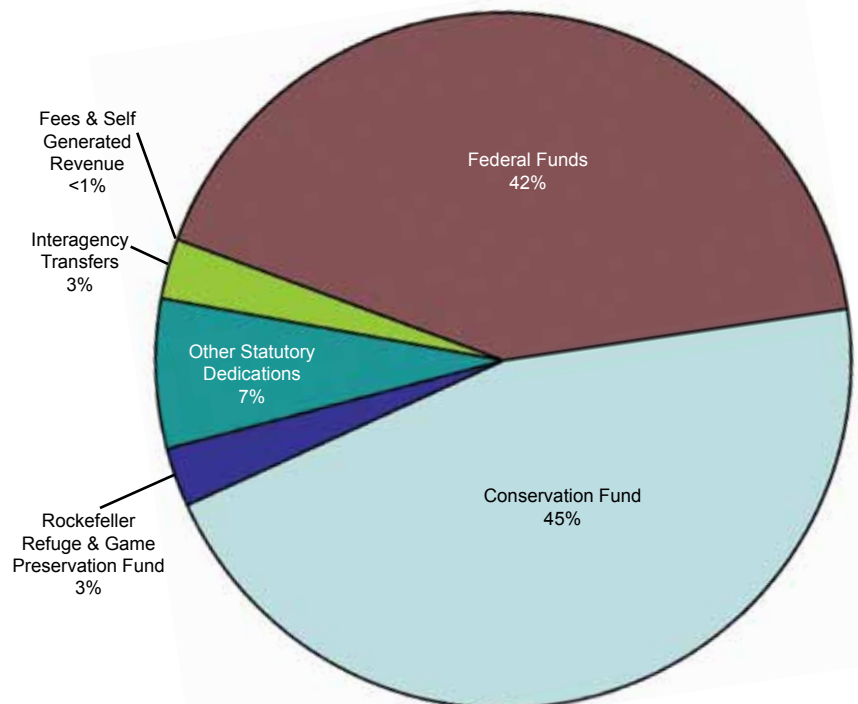
Total Expenditures = \$132,380,672

Total Positions = 779



How Fiscal Year 2008-2009 Expenditures Were Funded (Means of Financing)

Total Means of Financing = \$132,380,672



EXPENDITURES BY CATEGORY

Salaries and Benefits	59,873,258
Travel	365,362
Operating Services	9,982,680
Supplies	9,448,428
Professional Services	2,423,303
Other Charges	35,630,990
Interagency Transfers	6,423,816
Acquisitions	6,091,265
Major Repairs	2,141,570
TOTAL	\$132,380,672

HOW EXPENDITURES WERE FUNDED

Conservation Fund	60,203,922
Rockefeller Refuge & Game Preservation Fund	3,620,824
Other Statutory Dedications	9,241,798
Interagency Transfers	3,697,835
State General Fund	90,000
Fees & Self-Generated Revenue	53,109
Federal Funds	55,473,184
TOTAL	\$132,380,672

SOURCES OF REVENUE TO THE CONSERVATION FUND

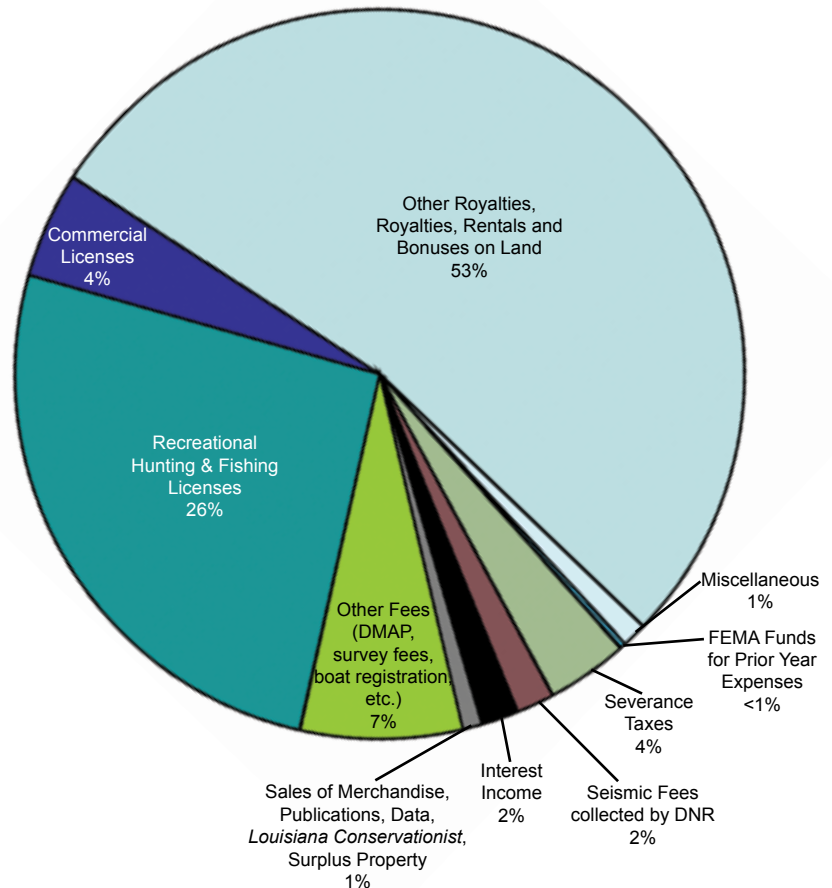
Other Royalties, Royalties, Rentals and Bonuses on Land	34,827,237
Commercial Licenses	2,936,959
Recreational Hunting & Fishing Licenses	16,913,285
Other Fees (boat registrations, survey fees, DMAP, etc.)	4,800,348
Sales of Merchandise, Publications, Data, <i>Louisiana Conservationist</i> , Surplus Property	542,765
Interest Income	1,089,751
Seismic Fees collected by DNR	1,146,471
Severance Taxes	2,400,065
FEMA Funds for Prior Year Expenses	190,838
Miscellaneous	649,400
TOTAL	\$65,497,119

EXPENDITURES BY PROGRAM

Management & Finance and Administrative	10,810,213
Enforcement	26,666,447
Seafood Promotion & Marketing	880,785
Wildlife	30,766,413
Fisheries	63,256,814
TOTAL	\$132,380,672

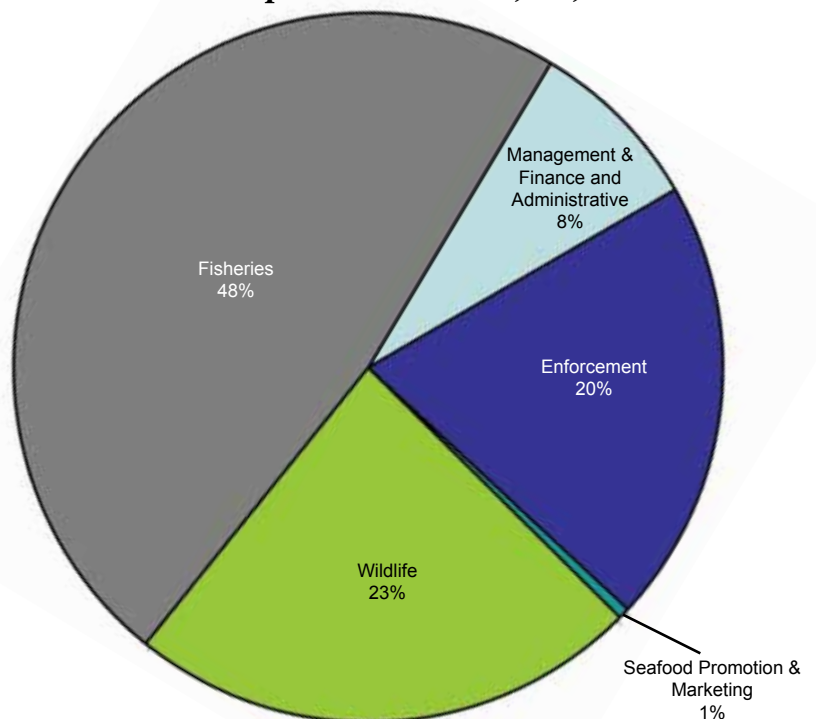
Fiscal Year 2008-2009 Sources of Revenue to the Conservation Fund

Total Revenue = \$65,497,119



Fiscal Year 2008-2009 LDWF Expenditures by Appropriated Program

Total Expenditures = \$132,380,672



HUMAN RESOURCES

The Human Resources section handles all vacancy announcements, employee personnel actions and employee benefits, develops policies and procedures, conducts training and new employee orientation, administers the performance planning and review program and LDWF's safety program.

At Wildlife and Fisheries, our most valuable resource is our human resources, the people who direct all of our other resources and get the work done on behalf of the Louisiana taxpayers, users and consumers of Louisiana's natural resources and products.

The authorized number of funded positions for LDWF for fiscal year 2008-2009 was 783. LDWF also employed students throughout the state.

Along with our active employees, we also provide service and guidance to retirees, former employees and their dependents.

One of the responsibilities of Human Resources is the comprehensive administration of our employees' personnel actions.

Human Resources is responsible for several program areas:

- Human Resource Administration (policies and procedures, civil service rules)

- EEO Compliance (ADA)
- Performance Appraisal
- Training and Staff Development (CPTP, MST, agency sponsored training)
- Employee Relations (employee counseling, Employee Assistance Program, grievances)
- Drug Testing
- Employee Recognition Program
- Classification (Position Descriptions, Job Studies, Audits)
- Wage and Salary Administration
- Recruitment Program
- Selection and Placement (LA Careers system)
- Benefit Program (health, life and miscellaneous insurance, retirement, workers' compensation, leave management, unemployment and FMLA)
- Operations (employee files, personnel actions, enrollment and exiting of employees)
- Payroll Administration (ISIS system)
- Safety
- Workforce Development
- Affirmative Action

In an effort to enhance safety and productivity in the LDWF workforce, we continue to work with employees and management to develop safe and productive work conditions through several of our programs such as Safety, Planning and Performance Review and Training and Staff Development.

LICENSING

The Licensing Section serves as the information hub for more than 1 million customers who recreationally fish, hunt, commercially fish and use state lands for non-consumptive purposes. The staff provides customers with state, federal and commission laws, rules and regulations that govern fishing, hunting and titling and registration of boats in Louisiana. The Licensing Section handles the issuance of all commercial licenses and boat title and registration services, manages the statewide electronic licensing system providing recreational license availability at more than 700 locations statewide, and oversees recreational license and boat registration renewals via internet and telephone. We accommodate commercial license sales at the Bourg location for scheduled days during the months of December and April. The Licensing Section continues to evaluate processes and streamline to improve availability and reduce processing time for licenses and boat titles and registrations.

License and boat title/registration activities and related revenue collections are as follows:

- issue in excess of 1.79 million recreational hunting, fishing, trapping and non-consumptive use licenses sold to 800,000+ customers, generating in excess of \$19.9 million in revenue, and maintain license records for approximately 50,000 lifetime licensees.
- 67,822 commercial licenses sold, representing approximately 15,000 customers, generating in excess of \$3 million in revenue.
- 156,275 boat registration applications, generating in excess of \$3.8 million in revenue, maintaining data for boats in excess of one million records - 319,124 of which are actively registered.
- Make available various types of oyster tags as required by federal and state law, in excess of 2.9 million, to oyster fishermen and processors.

PUBLIC INFORMATION

The Public Information Office (PIO) handles the primary communication programs for the Louisiana Department of Wildlife and Fisheries (LDWF). These programs cover a variety of communication avenues including publications (regulations, books, pamphlets, newsletters, etc), *Louisiana Conservationist* magazine, news and media relations, audio-video productions, Web site, public resource library, public relations and special events. The office employs 12 full time staff members. The PIO also serves as support staff to the Louisiana Wildlife and Fisheries Foundation.

PUBLICATIONS

The publications unit is responsible for the creation and creativity of specialized publications, hunting and fishing regulations and the annual report. All pre-press functions, editing and printing approvals are handled through PIO.

Specialized publications include any publication that is not produced on a regular basis and used for educational, informational or promotional use for LDWF conservation management programs. During fiscal year 2008-2009 this unit designed and published the following specialized publications:

- *Forest Stewardship Newsletter* (Fall/Winter 2008 and Spring/Summer 2009)
- *Wildlife Insider Newsletter* (Spring/Summer 2009)
- National Hunting and Fishing Day 2008 (pamphlets, signs and promotional materials)
- Landowners for Wildlife information pamphlet
- Hunter Education Brochure

Annual publications included the annual report, recreational and commercial fishing regulations, hunting seasons and WMA regulations, migratory game bird hunting regulations, turkey hunting regulations and trapping regulations.

LOUISIANA CONSERVATIONIST

The *Louisiana Conservationist* magazine (*LCM*) is LDWF's most prominent publication and the state's oldest outdoor magazine. *LCM* was first published in 1923 as a small black and white newsletter. Through the generations it has grown to a 36-page, full-color magazine and remained in continuous publication since its beginning. Published on a quarterly schedule, the magazine's circulation at the end of fiscal year 2008-2009 was 14,206. New layout and designs were implemented in January 2009 with a goal of introducing a complete new look within the year. Some of the changes included cover and table of content layout, name changes to the regular columns,

modern color palettes and a more refined overall appearance.

NEWS AND MEDIA RELATIONS

In fiscal year 2008-2009, the LDWF news service provided 388 news releases and features to approximately 150 media outlets through an electronic weekly mailing. In the previous fiscal year LDWF's biweekly newsletter moved exclusively to the Web site. However, due to LDWF's Web site popularity, the newsletter was discontinued in December 2008.

Statewide public meetings continued as in past years. These meetings are held in nine statewide locations to inform the public of proposed hunting season dates and WMA regulations. Public Information staff assisted the Wildlife Division with the coordination and coverage of seven meetings.

The news and media relations unit also coordinates media events, press conferences, interviews and specialize information campaigns. The LDWF media events highlighted in fiscal year 2008-2009 included:

- New Logo
- Hurricane Ike
- Hurricane Gustav
- Elmer's Island opens for public recreational use. (PR from Dec. 16, 2008)
- Lapsed Angler Program
- New Minden Office Ribbon Cutting Ceremony (PR from Feb. 27, 2009)
- Maurepas Swamp Donation (PR from April 22, 2009)
- Free Fishing Weekend on June 6-7 (PR from June 2, 2009)
- Lake Bistineau Weevil Program and spraying (PR from June 23, 2009)

AUDIO-VIDEO PRODUCTIONS

The audio-video unit within PIO handles LDWF's specialized audio and video requests, video news releases and recording of meetings and events. Several events were covered by the audio-video unit, including the official recordings of monthly LDWF Commission meetings. The following is a breakdown of events covered through the A/V unit:

MEDIA COVERED EVENTS

(LDWF raw video made available to the media and video news releases)

- Hurricane Ike - LDWF Enforcement Command
- Hurricane Gustav - LDWF Enforcement Command

- Free Fishing Weekend 2009
- National Hunting and Fishing Day 2008
- Maurepas Swamp Donation Event
- Black Bear Relocation
- Minden Office Ribbon Cutting
- Tilapia Control Project - Port Sulphur
- Salvinia Weevil Program - Lake Bistineau

SPECIAL VIDEO PRODUCTION

- Association for Conservation Information (ACI) Conference 2008 Awards Presentation
- LDWF Enforcement Cadet Commencement (February 2009)
- Turkey Tagging Video

PUBLIC INFORMATION AND RESOURCE LIBRARY

The Information and Resource Library is open for public access Monday-Friday, 8 a.m. - 4:30 p.m. Available materials include various natural resource related publications, *Louisiana Conservationist*, Wildlife Management Area maps, historic books and documents, regulation pamphlets and a selection of VHS videos available for loan. The library also houses LDWF's small marketing unit that retails items generated within LDWF. These items include maps, books, posters, manuals and various other documents created by its employees.

The library receives public information request on a daily basis. The total number of information requests received for fiscal year 2008-2009 was 8,573. The breakdown by source was as follows:

- Email - 149
- Mail - 166
- Phone - 4,643
- Walk-ins - 3,615

Another element of the library is LDWF's reception desk located at headquarters in Baton Rouge. The PIO operates and maintains this front line contact and security check point. All inquiries, phone calls and walk-in visitors are cataloged by month. The total number of inquiries for fiscal year 2008-2009 was 25,169 walk-ins and 28,608 phone calls.

WEB SITE

The site's search function was upgraded to Google search which allows users to search the entire site of approximately 3,000 available pages with more effective results. LDWF launched its first social media link in March 2009. Four videos were posted on YouTube in the last fiscal quarter (views are for total count at date of publication):

- LDWF Turkey Tag video: 1612 views.
- Turtle Cove media event: 128 views.
- Louisiana Black Bear Reintroduction: 677 views.
- Swainson's Hawk Nest: 310 views.

PIO staff began using Google Analytics to better understand the site's users. Google Analytics is a free service offered that generates detailed statistics about the Web site visitors. LDWF began using the service in May 2009.



Above/Below: PIO staff at Louisiana State Parks during Free Fishing Weekend.



PIO staff documenting tilapia eradication.

Google Analytics allows the Public Information Office to determine which operating systems and Web browsers visitors are using most, which allows the Web team to tailor the look and feel of the site for the best user experience. The service also indicates which topics are most popular among Web visitors.

The first complete month of data collected by Google Analytics for LDWF was June 2009. During that month alone, LDWF's Web site had 111,282 visits from 83,468 unique visitors, and nearly half a million page views. Each visitor spent about three minutes, 41 seconds on the site. The Web site had visitors from each U.S. state, the District of Columbia and 107 other countries from six continents.

SPECIAL PROMOTIONS/ACTIVITIES

The PIO is responsible for organizing and executing special public and promotional events for LDWF. These events are the responsibility of all PIO units with each unit contributing their expertise.

Events executed in fiscal year 2008-2009 included the Louisiana Restaurant Association Foodservice Expo (LDWF exhibit), National Hunting and Fishing Day (Baton Rouge location) and Step Outside (Baton Rouge location for LDWF employees)

2008 LAPSED ANGLER DIRECT MAIL MARKETING PROGRAM (LAP)

In 2007, LDWF partnered with the Recreational Boating and Fishing Foundation (RBFF) to implement a three-year direct mail marketing program designed to identify and target resident lapsed anglers. The program's goal is to increase fishing participation and generate awareness between license sales and conservation efforts. By design, the program includes two separate direct mailings of an oversized postcard with coinciding local radio and online advertising. Fiscal year 2008-2009 covers the results of the 2008 program and initiation of the 2009 program. A full copy of the Lapsed Angler Report can be found at www.wlf.louisiana.gov/pdfs/laannouncements/lapsedanglerfinal.pdf.

Based on their purchase history, lapsed anglers were classified into priority tiers. A "tier" reports how frequently an angler bought a license before lapsing. *Table 1* defines each tier. Approximately 19 percent of all Louisiana resident anglers who purchased a license between 2004 and 2008 were classified as having lapsed in 2008.

LAP 2008 Summary

The target audience total was 71,849 lapsed anglers. The size of the final reconciled mailing list was 66,010 after accounting for undeliverable addresses and anglers who bought a license before receiving the mailing. Of the 66,010 lapsed anglers, 17,319 purchased a fishing license during the evaluation period for an overall response rate of 26.2 percent. These 17,319 anglers purchased 20,903 licenses and permits. There was no control group for the initial year of the campaign.

TABLE 1. Definition of Tiers ("x" denotes year in which a license was purchased)

Lapse Tier	Years in which a license was purchased (x)				
	2004	2005	2006	2007	2008
1	x	x	x	x	
2		x	x	x	
3	x		x	x	
4			x	x	
5	x	x		x	
6		x		x	
7				x	

Implementation of the postcard mailings included the first mailing on May 30 and the second on July 17. An incentive was offered to lapsed anglers purchasing licenses by July 1 to encourage early action. A free bumper sticker - "I'd Rather be Fishing in Louisiana" - was mailed to each qualifying purchaser.

RBFF supported the direct mail effort with the purchase of radio and online advertising. LDWF did not purchase any additional advertising. Radio advertising dates were June 2-22 and July 28 - Aug. 17, and online advertising dates were June 2-29 and July 28 - Aug. 24.

Licenses sold during the direct mail program generated total license sales of \$170,668. A portion of each license sale is retained by the sales agent and is not realized as revenue by state government. After agent fees were subtracted, the remaining \$160,164 represented the gross program revenue received by the state from licenses sales of people targeted by the direct mail program.

The costs to implement the program include \$46,798 in direct expenditures by the LDWF for printing and postage. RBFF matched LDWF's expenses up to \$25,000. RBFF spent a total of \$57,964 for radio and online advertising in selected Louisiana media markets. In total, the LDWF and RBFF invested \$110,580 in the program. Subtracting this total investment from the state's gross program revenue yields net program revenue (i.e., net profit) of \$49,583. Comparing this net revenue to the total investment produces a positive ROI of 44.8 percent. For every dollar invested in the program the state of Louisiana received 45 cents of net revenue (profit) above and beyond the cost of the program.

LAP 2009

The second year of the Lapsed Angler Program began in the latter part of this fiscal year with the first postcard mailed on May 30, 2009. After the initial list of 70,000 was reconciled for invalid addresses and anglers who bought a license before the mailing, the final target list consisted of 63,270 anglers. A control group was added to the 2009 mailing list. The evaluation period for year two was May 31 - Aug. 23, 2009.



First promotional postcard mailed May 30, 2008. Above: Front/Below: Back.





Second postcard mailed in early July 2008.



Bumper sticker incentive to early responders of the Lapsed Angler Program.

SOCIOECONOMIC RESEARCH & DEVELOPMENT

The Socioeconomic Research and Development Section (SRD) was established in 1992 within the Office of Management and Finance of the Louisiana Department of Wildlife and Fisheries (LDWF). The duties and responsibilities of the section are:

- to recommend, conduct and coordinate economic research studies pertaining to wildlife and fisheries resources of Louisiana and the Gulf Region.
- to present research findings at appropriate professional and scientific meetings and publish results in departmental publications and peer-reviewed scientific journals.
- to provide information and support to other sections and divisions within LDWF, as well as agencies outside LDWF, to assist them in accomplishing their research needs, management tasks and short and long-term objectives.
- to represent LDWF and Louisiana in various study groups, on task forces and on committees established to study, manage and improve wildlife and fisheries resources at the local, state, regional and national levels.
- to administer and implement special programs.
- to perform other activities as directed by LDWF's appointing authorities.

PUBLICATIONS, REPORTS & PRESENTATIONS

Isaacs, Jack C. "The Economics of Wildlife and Fisheries Resources in Louisiana." Meeting of the Coastal Conservation Association, Baton Rouge, LA, June 23, 2009

Ogunyinka, Ebenezer and David R. Lavergne. "2008 Louisiana Recreational Fisherman and Health Advisory Survey Report" Louisiana Department of Health and Hospitals Award Number: 48629, Louisiana Department of Wildlife and Fisheries, Office of Management and Finance, Socioeconomic Research and Development Section, Baton Rouge, La., June 2009.

Isaacs, Jack C. "The Louisiana Department of Wildlife and Fisheries Fishing Rodeo Expenditures Survey Initiative." Meeting of the Louisiana Recreational Saltwater Fishing Task Force, Baton Rouge, La., June 16, 2009.

Isaacs, Jack C. "The Economics of Wildlife and Fisheries Resources in Louisiana." Meeting of the Louisiana Recreational Saltwater Fishing Task Force, Baton Rouge, La., April 21, 2009

Isaacs, Jack C., and Alex Miller. "Gulf of Mexico State Waters' Shrimpers Survey." Gulf States Fisheries Economics Workshop, New Orleans, La., March 19, 2009.

Bharadwaj, Latika and David R. Lavergne. "Trends in Louisiana Shrimp Industry from 2000-2007" Poster presented at Southern Agricultural Economics Association, Atlanta, Ga., Jan. 31 - Feb. 3, 2009.

Isaacs, Jack C. "The Economics of Wildlife and Fisheries Resources in Louisiana: Sources and Conclusions." Louisiana Association of Professional Biologists, Lafayette, La., Aug. 15, 2008.

Isaacs, Jack C. "Results of the 2007 Shrimp Dealers Survey." Louisiana Seafood Advisory Council, Baton Rouge, La., Dec. 2, 2008.

REPRESENTATION ON TASK FORCES, STUDY GROUPS & COMMITTEES

During fiscal year 2008-2009, staff members of the SRD Section represented LDWF on the following task forces, study groups and committees:

- Gulf States Marine Fisheries Commission Disaster Recovery Program Committee
- Gulf States Marine Fisheries Commission Arenarius Technical Task Force
- Louisiana Recreational Saltwater Fishing Task Force
- LDWF Marine Fisheries Information Systems Proposal Committee
- DM932 Oil Spill Assessment Trustees
- Gulf States Marine Fisheries Commission FIN Social/Economic Work Group
- Louisiana Blue Crab Task Force
- Louisiana Clean Marina Program Committee
- Louisiana Ozone Action Committee.
- Louisiana State Seafood Industry Advisory Board
- Louisiana Wild Crawfish Task Force
- Socioeconomic Panel of the Gulf of Mexico Fisheries Management Council

- Socioeconomic Section of the American Fisheries Society
- Technical Advisory Committee for the U.S. Fish and Wildlife Service's National Survey of Fishing, Hunting and Wildlife-Associated Recreation
- Louisiana Recreational Freshwater Fishing Task Force
- Data Management System Proposal Review Committee

FISCAL & ECONOMIC IMPACT STATEMENTS

With assistance from the various program managers within the offices of LDWF, the SRD Section prepares Fiscal and Economic Impact Statements that accompany the Notices of Intent and Rules considered for adoption by the Louisiana Wildlife and Fisheries Commission. During fiscal year 2008-2009, a total of 22 Fiscal and Economic Impact Statements were developed and published along with the Notice of Intents in the Louisiana Register.

PROGRAMS, PROJECTS & SURVEYS

Programs, projects and surveys administered by SRD during fiscal year 2008-2009 included the Clean Vessel Program, Cooperative Research Program, LDWF Recreational Marina Survey, Gulf of Mexico State Waters' Shrimpers Survey, Louisiana Health Advisory Project, and DM932 Oil Spill Damage Assessment.

CLEAN VESSEL PROGRAM

The Clean Vessel Program provides funds to owners of recreational boating facilities for construction and renovation of boat sewage disposal facilities. The purpose of this program is to reduce overboard discharge of raw boat sewage in Louisiana's waters by providing boaters with a safe and convenient method to dispose of boat sewage. Under the program, recreational boating facility owners are reimbursed up to 75 percent of the costs of approved activities. Funds are also used to develop and distribute educational and promotional materials to encourage boaters to use these facilities and to promote environmentally responsible behavior. Clean Vessel activities in fiscal year 2008-2009 included:

- Entering into a Cooperative Endeavor Agreement with Paul J. Allain Properties, LLC to construct a floating restroom for use by recreational boaters on Bayou Teche, located near New Iberia, La. in November 2009.
- Distributing educational information and promotional items at the National Hunting and Fishing Day in Baton Rouge, La. in September 2008, the Biz Tech Expo in Baton Rouge, La. in October 2008, the Catholic High School Alumni Fishing Rodeo at Port Fourchon Marina in Fourchon, La. in June 2009 and at the Last Stand for America's Wetland festivities at the Downtown Marina in Houma, La. in May 2009
- Listing an unexpected side wheel paddle boat shipwreck discovery at a CVA site located on Bayou Teche in New Iberia, La. on the register for Historic Places at the state level.

- Placing a public notice in the 2009 Recreational Fishing Regulations brochure encouraging boaters to properly dispose of their boat sewage. The notice also provided a list of currently available boat sewage disposal facility locations throughout the state.

COOPERATIVE RESEARCH PROGRAM

A cooperative research data collection program was implemented in May 2009 to measure the impact and monitor the recovery of Louisiana's Seafood Industry from the 2005 and 2008 hurricanes. In the spring of 2009, program application forms were mailed to 4,427 fishermen and 395 dealers to see if they were interested in participating in the Cooperative Research Program. Interested participants were told to mail the application packet to South Central Planning and Development Commission and in return would be receiving a questionnaire to complete.

Cooperative research questionnaires were developed for both fishermen and dealers. The questionnaires contained questions on their business operation characteristics, investment cost, percent of indebtedness, kind and volume of products handled, impacts received from the 2005 and 2008 hurricanes, perceived problems facing the seafood industry and opinions on various management practices. The questionnaires will be mailed to interested participants in the summer of 2009 and scanned into an electronic database file for analysis. A final report is expected to be published in 2011.

As part of the Cooperative Research Program, pre- and post-hurricane information from the Office of Fisheries Trip Ticket Program will be compared to see how the seafood industry has changed. This analysis will be included in the final Cooperative Research Program report.

LDWF RECREATIONAL MARINA SURVEY

As part of an economic assistance program administered by the Office of Fisheries Marine Division, SRD conducted a survey of marinas that serve recreational boaters and anglers in coastal Louisiana. Over 60 marinas were selected for participation in the survey by the LDWF Marine Fisheries Division. The survey was designed to estimate marinas' revenues and operating expenses, to assess damages associated with the 2005 and 2008 hurricanes, and to determine their current needs and plans for future operations.

Questionnaires were first mailed in February 2009. Completed questionnaires continued to come from marinas throughout 2009. A report of the results of the survey is expected in 2010.

GULF OF MEXICO STATE WATERS' SHRIMPERS SURVEY

In collaboration with the Gulf States Marine Fisheries Commission and National Oceanographic and Atmospheric Administration economist, the SRD staff designed and conducted a Gulf of Mexico State Waters' Shrimpers Survey to assess shrimp harvesting activities and expenses of commercial fishermen in Florida, Alabama, Mississippi, Louisiana and Texas. The four-

page questionnaire was mailed in May 2009 and was printed in both English and Vietnamese translations. As of the end of June, 2009, 566 surveys had been returned. A report of the findings of this survey is expected to be completed in 2010.

LOUISIANA HEALTH ADVISORY PROJECT

An agreement was entered into with the Louisiana Department of Health and Hospitals (DHH) in fiscal year 2007-2008 to administer a health advisory angler survey. The objective of this study was to determine baseline anglers' fishing activities, measure angler awareness of seafood health advisories issued by the DHH, identify angler consumption habits and assess how anglers' fishing activities and consumption habits may have changed as a result of their awareness of the health advisories.

A mail survey was used in 2008 to collect information from resident recreational fishermen on their fishing activities and participation (both in freshwater and salt-water), fish consumption, and awareness and response to health advisories. The report was completed in June 2009.

DM932 OIL SPILL DAMAGE ASSESSMENT

On July 23, 2008, a shipping accident in the Mississippi River in New Orleans caused an oil spill that affected fishing and other recreational activities in and south of New Orleans. Staff from the SRD Section assisted in the assessment of the damage associated with the incident by identifying resources that may have been affected by the spill, suggesting methods for assessing the damage, and designing survey methods and instruments. Staff from SRD also served as trustees representing LDWF in consultations with representatives of National Oceanic and Atmospheric Administration and the Louisiana Oil Spill Coordinators Office.

In August 2008, staff from SRD assisted in a survey to assess losses in the New Orleans Riverwalk area, and in October 2008, they assisted in a dockside survey in Buras, Fort Jefferson, and Venice, La. to assess damages to Louisiana anglers.

PROPERTY CONTROL

The Property Control Section is responsible for managing LDWF's Property Control, Risk Management Insurance Claims and Fleet Management programs. The section is staffed with four full-time employees.

PROPERTY CONTROL PROGRAM

During fiscal year 2008-2009 this program certified a moveable property inventory which consists of 8,809 items for a total acquisition cost of \$50,525,728.64. Annually, the program is responsible for ensuring that a physical inventory of moveable property is conducted at the various 75 locations throughout the state.

The Property Control Section processed \$4,661,999.40 in acquisitions and \$3,325,470.05 in dispositions of inventoried movable property during fiscal year 2008-2009.

FLEET MANAGEMENT PROGRAM

In accordance with state fleet management regulations this section records, approves and processes requests for personal assignment or home storage, daily vehicle usage, vehicle maintenance, title, registrations and vehicle licenses for LDWF's 558 fleet and 767 other licensed vehicles.

The Property Control Section also managed the 10 vehicles assigned to the Baton Rouge Headquarters Motor Pool.

RISK MANAGEMENT PROGRAM

The Property Control Section is responsible for filing insurance claims and recovering payment from the Office

of Risk Management and third party insurance companies for property damage, automobile physical and liability damage, wet marine, aviation, boiler and machinery damage. The section is also responsible for filing general liability insurance claims.

Driver's authorization and annual certification for LDWF's approximate 900 employees is also a responsibility of the Property Control section. This process is accomplished in accordance with Office of Risk Management's loss prevention guidelines.



OFFICE OF WILDLIFE

The Office of Wildlife consists of two divisions, Wildlife Division and Coastal & Non-game Resources Division.

WILDLIFE DIVISION

The Wildlife Division is responsible for the state's wildlife conservation program and gathering biological data to properly manage wildlife resources.

COASTAL & NON-GAME RESOURCES DIVISION

Active marsh management is the primary responsibility of the Coastal & Non-game Resources Division. Responsibilities of the division are divided into eight major categories: Coastal Stewardship Operations; Fur and Marsh Management; Alligator Management; Permitting and Mineral Management; Rockefeller Refuge; Habitat Conservation; Education and Maintenance.

WILDLIFE

WILDLIFE RESEARCH

A wide range of research and management work is conducted in order to maintain healthy productive populations of game and to provide recreational opportunities for citizens to enjoy these species. Staff biologists gather data on game birds and animals, largely for use in formulating hunting regulations and development of habitat management recommendations. They present seminars to the public and develop workshops for personnel of the Louisiana Department of Wildlife and Fisheries (LDWF) and other agencies. In addition, the staff represents LDWF on state, regional and national committees, providing wildlife input to a wide array of public agencies, non-governmental organizations and private industry. The game species programs are white-tailed deer, upland game, wild turkey, waterfowl, large carnivore, nuisance animals and wildlife disease.

WHITE-TAILED DEER

During the 2008-2009 deer season, 162,600 deer hunters harvested 158,200 white-tailed deer. On wildlife management areas (WMAs) during managed deer hunts, there were 2,589 deer harvested. The total hunter effort for the managed deer hunts was 28,363. The Deer Management Assistance Program (DMAP) cooperators harvested 9,349 deer. There were 319 clubs and landowners enrolled in this program. Louisiana Antlerless Deer Tag (LADT) harvest in 2008 was approximately 8,627 with 467 cooperators enrolled.

Deer harvest information from across the state was analyzed and evaluated. This data was used to establish deer seasons for the 2009-2010 season. Harvest data for WMAs and DMAP cooperators are summarized in Federal Aid W-55-23 Report.

Qualifying deer harvested during 2007-2009 will be documented in the sixth LA Big Game Recognition Program. Trophy deer that qualify for the State Record List are added to this list annually.

The West Baton Rouge Deer Telemetry Project was completed, and results were presented in statewide meetings and a Louisiana State University (LSU) thesis. Efforts by the Coastal and Non-game Resources Division to capture and mark deer at Pass-a-Loutre WMA continue. Twenty-nine deer have been ear tagged and are being monitored by remote cameras. The Avoyelles Parish project to determine survival, mortality and antler growth characteristics of deer in a large enclosure compared to free ranging deer continues, but trapping success inside the enclosure has been limited. The north Louisiana telemetry project, performed in cooperation with the LSU School of Renewable Natural Resources is in its second trapping season. A total of 36 deer were captured and radio marked during the first season. Telemetry locations are

taken two to three times weekly. The Union Parish project was initiated to provide base line information on survival, mortality and home ranges of deer in pine habitat. Disease and parasite investigations continued on both private and public lands.

UPLAND GAME

Dove

Dove populations have been monitored nationwide since 1953 by a call-count survey. This survey is used by the U.S. Fish and Wildlife Service (USFWS) to monitor mourning dove population trends. Biologists record the number of doves heard calling for a prescribed time during the nesting season along certain roadsides.

Louisiana's dove population is monitored during May and June along 19 routes randomly located throughout the state. The 2009 Louisiana breeding population index based on doves heard along the routes was 17.3. This represents a 31 percent increase in doves heard from 2008. The 10-year and 40-year trends illustrated 0.5 percent and 1.2 percent increases annually, respectively. The 10-year and 40-year trends for doves seen along routes illustrated 0.2 percent and 2.1 percent increases annually, respectively.

Dove hunting regulations for Louisiana in 2008-2009 were set at 70 days with a bag limit of 15 birds. Shooting hours were changed to allow all day hunting every day except the opening day of the season. Previously, the opening weekend of each split was limited to afternoon hunting only. A survey of resident license holders indicates that approximately 32,600 Louisiana hunters harvested approximately 575,900 doves during the 2008-2009 hunting season. An estimated 29,900 Eurasian collared-doves were also taken.

In addition to dove fields on 11 WMAs, LDWF leases property from private landowners for public hunting. This land is leased for public hunting on opening day only. In 2008, two fields totaling 675 acres were leased. During the opening day hunt, 332 hunters participated, bagging 1,254 doves.

In the spring of 2003, the USFWS adopted a National Mourning Dove Harvest Management Plan. Determining current harvest rate in each management unit was identified as a key component of the plan. Wildlife Division personnel banded over 2,400 doves during July-August 2009 as part of a national effort to provide information needed to develop harvest rate estimates for mourning doves. Another aspect of this study has been the development of production indices from mourning dove wings collected from hunters. During the opening weekend of the 2008-2009 hunting season, over 1,250 wings were collected from public and private fields. A Wildlife Division biologist participated in the annual Mourning

Dove Wing Bee held in Missouri. During a three-day period, state and federal biologists from across the country aged more than 50,000 wings.

Finally, LDWF hosted the 2009 Eastern Management Unit Dove Technical Committee meeting. This group makes recommendations to administrators concerning mourning dove and provides technical support for the regulation setting process to the USFWS. Wildlife biologists from 15 eastern states and six federal biologists participated. The meeting was held at the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service Plant Materials Center in Galliano, La.

Quail

Statewide fall whistling counts were conducted on 32 randomly located routes and an additional six routes on LDWF WMAs and the Kisatchie National Forest. All regions of the state were unchanged from the prior year, except for the west-central and southeast regions which recorded statistically significant increases. However, all regions exhibited long-term (1983-2008) declines. Inferences about population status and habitat conditions were developed based on the combined results of these two survey techniques and general observations by LDWF personnel during the breeding season. Data are summarized in the Federal Aid W-55-23 Annual Report.

A survey of resident license holders indicates that approximately 1,000 Louisiana hunters harvested 1,900 wild quail during the 2008-2009 season. Hunters were also asked about their harvest of pen-raised quail. About 2,100 hunters harvested over 50,300 pen-raised quail.

LDWF continues to work with its partners to address the decline in bobwhite populations. Habitat development efforts using USDA Farm Bill programs and the State Wildlife Grant (SWG) Program have been developed and were operational in 2008-2009.

Woodcock

A woodcock banding program was initiated in 1990 to determine sex and age ratios, site fidelity, movement patterns and harvest rates of woodcock wintering in Louisiana. From December 2008 - January 2009, 155 woodcock were banded statewide. Of these, 89 were banded on Sherburne WMA and 76 on three other sites, but primarily Red River WMA and Tensas River National Wildlife Refuge (NWR). An additional eight birds banded in prior years were also recaptured (three on Sherburne and five on Red River). Seven direct band recoveries and three indirect (one or more years after banding) were reported. All six direct recoveries by hunters were originally banded and taken on Sherburne WMA. One of the direct recoveries was found dead in Tennessee in February. This bird was banded on the Red River WMA. Two of the indirect recoveries were banded on Sherburne last year and recovered in Wisconsin and Georgia, respectively. None of the birds banded off of Sherburne WMA were reported harvested during the year of banding. Data are summarized in the Federal Aid W-55-23 Annual Report.

LDWF participated in the USFWS' Annual Woodcock Wing Bee in 2008. Data derived from aging and sexing about 12,000 woodcock wings were used to develop trend data on woodcock production and hunter success. These data, in combination with breeding bird surveys, are used to develop management strategies for woodcock. Although many people in Louisiana consider woodcock an under-utilized species, Louisiana's harvest of woodcock at one time ranked among the nation's highest. However, the number of woodcock hunters has decreased by over 90 percent since their peak in the early 1980s. Nonetheless, Louisiana still consistently ranks fourth in the nation for woodcock harvest. A survey of resident license holders indicates that approximately 4,400 Louisiana hunters harvested 20,100 woodcock during the 2008-2009 season.

WILD TURKEY

A poult production survey was initiated in 1994 to assess annual brood rearing success and monitor long-term production trends. The 2008 survey indicated a good hatch in the northwest and southeast regions. A fair hatch was observed in the west-central region and poor production occurred in the Mississippi/Atchafalaya River floodplain.

The most recent hunter harvest survey indicated 19,400 turkey hunters harvested 8,300 wild turkeys during the spring of 2008. The wild turkey population in Louisiana is estimated at about 60,000 birds.

LDWF is involved in two major wild turkey research projects. LDWF is supporting a wild turkey research project on Sherburne WMA in conjunction with the LSU School of Renewable Natural Resources, with additional support from the National Wild Turkey Federation. This project is investigating the influence of land management activities on raccoon predation of wild turkey nests. LDWF is also engaged in banding gobblers throughout the state. Banding gobblers, and subsequent reporting by hunters of banded gobblers they harvest, provides information needed to estimate wild turkey harvest rates throughout the state.

WATERFOWL

Louisiana has approximately 3.5 million acres of coastal marsh that winter large and diverse waterfowl populations. Aerial waterfowl inventories of the entire coastal marsh, as well as associated agricultural lands in north central and northeast Louisiana are conducted each winter.

The mid-winter inventory conducted in early January 2009 indicated 2.01 million ducks and 604,000 geese wintered in coastal marsh and inland areas of the Mississippi Delta.

Based on federal harvest estimates from the 2008-2009 waterfowl hunting season, 68,800 active duck hunters harvested 1.75 million ducks. This represents a 10 percent increase in the number of duck hunters and a 17 percent increase in duck harvest compared to the previous year. Species composition included 22 percent green-

winged teal, 20 percent blue-winged teal, 19 percent gadwall, 9 percent wood duck and 8 percent mallard. Mottled duck, pintail, shoveler wigeon, scaup, ring-necked duck, canvasback and redhead comprised the remainder.

Louisiana goose hunters harvested 150,000 geese during the 2008-2009 waterfowl hunting season, an 18 percent decrease from the previous year. White-fronted geese comprised 52 percent of the harvest and light geese (snow and Ross') comprised 48 percent. Canada geese are a locally important bird in the bag, but comprised less than 2 percent of the total statewide goose harvest.

North American Waterfowl Management Plan

Louisiana continues to play an important role in the North American Waterfowl Management Plan (NAWMP). Louisiana's successful role in NAWMP is largely due to the strength of our partnerships with the Gulf Coast and Lower Mississippi Valley Joint Ventures. LDWF strives to maintain ongoing projects and other activities associated with NAWMP. In fiscal year 2008-2009, the Sherburne and Russell Sage WMA enhancement projects were awarded funding through a North American Wetland Conservation Act (NAWCA) grant. Enhancement work on 349 acres of Sherburne WMA includes installation of two wells and two water control structures on three moist soil units. The addition of the two wells will provide a dependable source of water for the three units and allow managers to flood the units in late summer for early migrating waterfowl and shorebirds. Construction will be completed during summer 2010. Enhancement work on Russell Sage WMA includes rebuilding the levee around the greentree reservoir and replacing six dilapidated water control structures. This work is needed to ensure the levee and structures continue to function and prevent timber damage. Construction was initiated during fall 2009, but was delayed until summer 2010 due to early fall flooding. Construction should be completed during summer 2010. Construction was completed on Boeuf WMA's Crow Field Unit using NAWCA and FEMA funding; however, additional work is needed on the spillway and levees due to flood damage.

LDWF provided funding, equipment, personnel and/or coordination on two major waterfowl research projects of high priority to NAWMP joint ventures in Louisiana. Bruce Davis and Dr. Frank Rohwer completed year two of their three-year mottled duck telemetry study in southwestern Louisiana. Bruce tracked radio-marked female mottled ducks and found high use of intermediate marsh during March and April and a shift to freshwater marsh during May and June. Hurricanes Ike and Gustav provided an opportunity to document movements of radio-marked mottled ducks due to hurricane effects. Preliminary results indicate mottled ducks generally moved north into unaffected freshwater marsh and agricultural areas in response to hurricane storm surge. Jacob Gray and Dr. Alan Afton completed their gadwall satellite telemetry study in southwestern Louisiana. Jacob found radio-marked female gadwall primarily used intermediate marsh prior to Hurricane Ike. Habitat use post-Hurricane

Ike showed an increased dependence on freshwater marsh; however, intermediate marsh use remained high. These results suggest that intermediate marsh is important for wintering gadwall; however, freshwater marsh may become increasingly important when tidal surge events alter salinity within coastal marshes. These studies support the need for habitat conservation efforts to preserve the natural salinity gradient along the Louisiana Gulf Coast.

Efforts to chemically and mechanically treat invasive vegetation on Catahoula Lake were unsuccessful due to early fall rains. Those and additional acres will be targeted for treatment during next summer. LDWF is also researching the efficacy of bulldozing encroaching woody vegetation that is too large to spray or mow.

The Louisiana Waterfowl Project (LWP) entered its 18th year providing private landowners compensation to voluntarily engage in wetland development projects. This is a cooperative statewide program involving LDWF, Ducks Unlimited, USDA Natural Resource Conservation Service, USFWS and interested private landowners. During 2008-2009, 7,559 acres were restored or enhanced, technical assistance was provided on 25,886 acres, and 12,027 acres were under consideration for perpetual conservation easements. To date, LWP has restored or enhanced over 93,572 acres and provided technical assistance on 651,243 acres. Future LWP activities will increase emphasis on marsh management needs, creation of natural wetlands habitat in south Louisiana and development of conservation easements for important bottomland hardwood forest tracts in north Louisiana.

Wood Ducks

During 2008, LDWF banded 1,334 wood ducks, well below the 2,405 banded the previous year. Banding efforts were hampered by forest damage and flooding caused by hurricanes Gustav and Ike. Approximately 572 were captured in nesting boxes, and 762 were captured using rocket nets.

The wood duck nest-box program completed its 20th year in 2009. LDWF personnel are maintaining 2,100 boxes currently in use. Over 772 of those boxes are within Region VI and 564 within Region III. That is substantially fewer than the peak of 2,800 statewide a few years ago but is up from the 1,974 last year as we continue to rebuild and install boxes to replace those lost from hurricane-related damage in 2005 and 2008. LDWF's focus is to replace old boxes that are productive, move boxes that are not as successful into more productive habitat and expand the number of boxes through the Private Lands Program. Utilization is monitored currently at 1,900 boxes. Utilization has ranged from 45-100 percent in past years with an average utilization of about 80 percent.

LARGE CARNIVORE PROGRAM

Bear Research in Tensas River Basin (TRB)

In February and March, researchers located radio-collared females in their dens to assess their reproductive status. Bears found to have newborn cubs were then iden-

tified as candidates for the March translocation. In a multi-agency effort, five females and their 10 cubs were removed from their ground or tree den in the TRB and placed in artificial den boxes in the Red River Complex (RRC).

The Louisiana reintroduction project completed its final moves in 2009. Overall, a total of 48 females with 104 cubs have been relocated. Survival rates of reintroduced bears have been similar to those of bears in the TRB, and reproduction has also started to occur, indicating that a self-sustaining population may soon be reachable. Reproduction has occurred each year since 2005 in the RRC. We will use the survival and reproduction data to determine if the newly established population has become self-sustaining or if further reintroductions are needed. They will also be using similar data collected in the TRB to assess that population's viability and ability to support future reintroductions, should they be deemed necessary.

Researchers spent July/August 2008 collecting the third year of data on Louisiana black bears in the TRB. Data on reproductive status were collected by walking in on radio-collared females and observing cubs. Females with cubs that were translocated to the RRC in central Louisiana are being closely monitored through ground telemetry.

Bear Research in Atchafalaya River Basin

Researchers spent July/August 2008 collecting the second year of DNA data on Louisiana black bears at the Atchafalaya study area. In fiscal year 2008-2009, 115 hair traps were monitored and hair samples were collected during the 10-week sampling period. Samples have been sent to Wildlife Genetics International, Inc. for DNA analysis.

URBAN AND NUISANCE WILDLIFE

The Urban and Nuisance Program coordinates the permitting and issuance of various permits. Nuisance Wildlife Control Operator (NWCO) permits and Nuisance Animal Control permits are issued by the section to qualified professionals and to private individuals who are having problems with nuisance wildlife and are deemed capable of taking care of the problems on their own. In fiscal year 2008-2009, there were 82 NWCOs and 19 Nuisance Animal Control permits issued. The Urban and Nuisance unit is also responsible for issuing Wildlife Rehabilitation permits, Special Purpose and Possession, and Non-game Quadruped Exhibitor and Breeder permits. In fiscal year 2008-2009, 70 Wildlife Rehabilitation permits, 15 Special Purpose and Possession permits and 33 Non-game Quadruped Breeder and Exhibitor permits were issued. The largest portion of daily activity includes technical and general assistance provided to the public, other governmental agencies and non-governmental organizations regarding nuisance animals and injured wildlife. A total of 1,291 calls were handled by this program in fiscal year 2008-2009.

WILDLIFE DISEASE

The statewide Wildlife Disease Program was enhanced by the addition of a State Wildlife Veterinarian. Currently, less than half of the 50 states have wildlife veterinarians on staff. The addition of the State Wildlife Veterinarian to the qualified pool of wildlife biologists enables rapid response to disease outbreaks and improves community outreach through open communication with concerned citizens.

Under the direction of the new State Wildlife Veterinarian, several new research programs were initiated including surveillance of skunks for rabies and leptospirosis and a feral swine disease surveillance program.

Chronic Wasting Disease (CWD) surveillance continued as 427 samples were submitted from all regions of the state to the Southeastern Cooperative Wildlife Disease Study laboratory. Samples were collected from hunter-killed deer which are considered low probability samples, as well as from road-killed, pen-killed and taxidermy specimens which are considered high probability samples. All samples tested negative for CWD.

Surveillance for Avian Influenza also continued. During the sampling process, 875 migratory ducks and shorebirds were tested for the disease. The majority of the birds were hunter-killed birds, but shorebirds were harvested by agency personnel for testing. Biologists also combined efforts during wood duck banding efforts to acquire Avian Influenza samples from banded birds. Samples were shipped to both Alabama and Arkansas for testing. No birds tested positive for Highly Pathogenic Avian Influenza.

Due to the propensity for propagating and spreading diseases of zoonotic concern and of concern to commercial swine farmers, legislation was drafted for introduction in the 2009 legislative session which would effectively limit the movement of feral swine within Louisiana.

Biosecurity measures were instituted during 2008 including the acquisition of proper biohazard disposal containers, and an incinerator was purchased for the disposal of diseased carcasses and biological specimens.

Also of note, a cougar which was killed in Bossier City was necropsied by LDWF personnel and found to be a male of approximately four years of age. The cougar was found to have no significant diseases, and samples were obtained for DNA testing. DNA comparison with Texas and Florida cougar populations indicated that the cougar was from neither population and genetic alleles suggested that it may have been a captive-bred animal.

LAND DEVELOPMENT & MANAGEMENT

Land development involves both wildlife habitat enhancement and infrastructure improvement to accommodate public use of the 52 WMAs. Typical activities include road and bridge repair and construction, vegetation control, tree planting and harvesting, water control

structure operation, pump station operation, wildlife food plot development and boundary maintenance. Coordination and monitoring of mineral exploration activities is also a function of the Wildlife Division on WMAs.

LAND ACQUISITION

Land acquisition and development for wildlife management purposes is the best way to ensure that there is sufficient quality habitat for the state's diverse wildlife resources. During fiscal year 2008-2009, LDWF acquired 3,231 acres of land. Through a partial donation from a private donor's charitable contribution fund and a WMA lease, a 1691-acre tract of land known as "Rogers" was added to the Maurepas Swamp WMA in St. John the Baptist Parish. A 10-acre tract in Calcasieu Parish was acquired from a private donor and added to the LDWF land inventory. Also, through a WMA lease, a 1530-acre tract was added to the Dewey Wills WMA in LaSalle Parish.

FORESTRY PROGRAM

The mission of the Forest Management Program is to improve forest and wildlife habitat on WMAs through sound forest management, reforestation practices and forest/wildlife research activities.

General forest inventories were accomplished this year on Boeuf and Three Rivers WMAs. Approximately 68,000 acres were inventoried this year under a new inventory method that measures both forest and wildlife variables. This new inventory method will improve understanding of the long-term changes that forests and wildlife undergo.

Harvest preparations, including sale layout, inventory, regeneration counts, marking, Geographic Information Systems (GIS) map development, proposal preparations and sale amendments, were completed on Boeuf, Grassy Lake, Marsh Bayou, Ouachita, Pomme de Terre, Russell Sage, Spring Bayou and Three Rivers WMAs. High fuel prices and several mill closures resulted in several sales receiving no bid/treatments. Harvests to improve wildlife habitat were attempted and/or conducted on Dewey Wills, Grassy Lake, Marsh Bayou, Ouachita, Red River, Russell Sage, Spring Bayou and Three Rivers WMAs.

Chemical treatments of invasive/non-native species, primarily Chinese tallow tree and cogon grass, continued on Lake Ramsey, Pearl River, Sandy Hollow and Sherburne WMAs. No beetle outbreaks were reported on Sicily Island or Little River WMA this year. Beaver control activities continued with 191 beaver and 10 dams removed from Big Lake, Boeuf and Dewey Wills WMAs. No forest loss was reported this year from beaver activity.

Monitoring the impacts of Hurricane Katrina on the forest resources of Pearl River WMA continued. This monitoring included research on woody/herbaceous response, arthropod response and bird response. Search efforts for the ivory-billed woodpecker continued on the area with aerial and ground searches initiated and completed.

Monitoring efforts were initiated on Sherburne WMA to document the impacts of hurricanes Ike and Gustav.

Reforestation work continued on LDWF properties with concentration on Ouachita and Red River WMAs. Site development and preparation, seedling and seed planting, survival plot establishment and survival checks were all enacted in 2008-2009. Approximately 39 acres were reforested/afforested during the 2008-2009 planting season.

Acorn and other tree seed collections, along with purchase of quality seed, were conducted to ensure a seed and seedling source for future reforestation efforts. The annual WMA mast survey aids this effort by concentrating collection efforts where the most needed species are available. The mast survey also provides an indication of the future abundance of forest wildlife species such as squirrels.

GPS work on WMA trails, roads, lakes, compartments and area boundaries was accomplished to aid the WMA management program. GIS program development continued with emphasis on updating timber sale data, boundaries, roads and streams to complement WMA forest management and development activities.

Growth Monitoring Plots were read on Russell Sage, Sherburne and Tunica Hills WMAs. These permanent plots aid in monitoring habitat conditions and effects of the forest management program on the habitat components represented on the WMAs.

An avian productivity and survival monitoring project continued on Sherburne WMA with seven stations and on Pearl River WMA with two stations. Forestry Section personnel provided support for this project, expected to continue for 10 years (this completed year six). Results from this study will aid understanding of avian use of various silvicultural treatments applied across WMAs.

Other survey and research projects on the WMAs that were supported by Forestry Section staff involved wildlife use of forested habitats and their response to various silvicultural treatments. Continued research efforts, especially long-term, will be sought and cooperatively engaged in to learn more about the forest systems managed across the state. Continuing education for the Forestry Section staff occurred through participation at various workshops, seminars, research meetings and conferences throughout the year.

REGIONS AND WMAS

The biological staff in the seven Wildlife Division Regions were reorganized this year in an effort to focus on delivery of a new private lands program, Louisiana Landowners for Wildlife (LFW). This reorganization included the assignment of one biologist supervisor in each region to administer the WMAs in that region. These moves represent an attempt to better standardize our statewide programs within the regions and focus our biological efforts on program priorities.

REGION I

Consists of seven parishes in northwest Louisiana:

- Bienville
- Bossier
- Caddo
- Claiborne
- DeSoto
- Red River
- Webster

WMAs Managed in Region I (total of 77,633 acres):

- Bayou Pierre
- Bodcau
- Jackson-Bienville
- Loggy Bayou
- Soda Lake

Habitat consists primarily of rolling, mixed pine-hardwood and pine plantation habitat bisected by the Red River system and its associated bottomland agricultural lands.

Personnel from Region I administered and managed numerous Wildlife Division programs. Programs included bobwhite quail spring and fall surveys, annual winter eagle surveys, spring dove call routes, dove banding, mast surveys, spring turkey gobble count surveys, turkey trapping and turkey banding activities. Personnel collected samples from white-tailed deer for herd health projects, CWD monitoring and administered DMAP/LADT activities. Personnel served as technical wildlife consultants to numerous private landowners, municipalities and state and local government officials and agencies. Region I private lands biologists conducted five on-site inspections of private land enrolled in the Natural Resources and Conservation Service Wetlands Reserve Program. Wildlife Division personnel supervised the development and construction of a new Region I office. All Region I personnel moved into the new office in February 2009.

The WMAs are managed to provide diverse wildlife habitat that supports numerous game and non-game wildlife and provides quality outdoor recreational opportunities for the public. A total of 37,689 user days were estimated for Region I WMAs. Personnel also reviewed and monitored oil and gas exploration activities and interstate pipeline installations on several Region I WMAs.

REGION II

Consists of eight parishes in northeast Louisiana:

- East Carroll
- Jackson
- Lincoln
- Morehouse
- Ouachita
- Richland
- Union
- West Carroll

WMAs managed in Region II:

- Bayou Macon
- Big Colewa Bayou

- Floy Ward McElroy
- Ouachita
- Russell Sage
- Union

Habitat types consist of mixed pine-hardwood forests in the West Gulf Coastal Plain, agricultural lands and Mississippi River Alluvial Valley bottomland forests.

Region II biologists conducted a wide range of activities including research and surveys involving mourning doves, Canada geese, wood ducks, wild turkey, bald eagles, bobwhite quail, shorebirds, white-tailed deer, waterfowl and other species. Private land technical assistance was provided through the LFW Program.

Additional effort was expended conducting public meetings, interacting with various universities as well as parish, state and federal agencies in reference to projects of mutual concern, conducting the alligator management program at the regional level and numerous additional projects. Nuisance bear problems required a considerable expenditure of time.

Region II WMAs were managed to provide habitat for deer, turkeys, squirrels, waterfowl, rabbits, doves, shorebirds and other non-game birds, furbearers and other species. Recreational opportunities were provided to thousands of hunters, fishers, campers, sightseers and other public users. Recreational user days recorded for Region II WMAs exceeded 41,000. Either-sex modern firearm hunts for deer attracted 3,501 hunters, resulting in a harvest of 493 deer. Additional opportunity for bucks-only gun hunting, muzzleloader, archery and youth-only hunting yielded a reported harvest of 157 additional deer. Youth deer and dove hunters on the Floy McElroy WMA had a successful season. Deer and waterfowl hunting opportunities were provided for wheelchair confined hunters on Big Colewa Bayou and Ouachita WMAs. Turkey hunting was provided on Bayou Macon and Union WMAs. A youth turkey hunt was held on Union WMA in cooperation with the Union Parish Chapter of the National Wild Turkey Federation. Ouachita and Russell Sage WMAs provided quality waterfowl hunting for several thousand hunters, including some who traveled from Missouri, Arkansas, South Carolina, Mississippi, Texas, Georgia, North Carolina and Indiana.

WMA personnel performed a variety of development and maintenance functions such as boundary marking, road maintenance, water control structure operation, moist soil management, shorebird management, beaver and other nuisance animal control, farm contract supervision, equipment maintenance, public user data collection, vegetation control, food plot planting and reforestation. They also assisted biological staff in conducting managed hunts and research projects. Two new public parking areas were constructed on Ouachita WMA.

REGION III

Consists of six parishes in west central Louisiana:

- Grant
- LaSalle

- Natchitoches
- Rapides
- Sabine
- Winn

WMAs managed in Region III:

- Dewey W. Wills
- Little River
- Alexander State Forest
- Camp Beauregard
- Sabine
- Elbow Slough

Catahoula Lake is an additional area of responsibility.

All of these areas are managed to provide wildlife habitat and outdoor recreational activities. Total user days for fiscal year 2008-2009 were estimated at 124,479.

Efforts to improve the road system on Dewey Wills and Little River WMAs continued to be hampered by lack of funding. Construction projects were limited due to budget restraints. No major projects were begun or completed in fiscal year 2008-2009. Spot repairs on WMA roads were made as funding allowed.

Extremely heavy rainfall associated with hurricane Gustav resulted in scheduled mechanical and chemical brush control projects on Catahoula Lake being postponed for at least another year.

Routine maintenance activities on the state owned areas included road grading, culvert replacement, spot repairs, drainage improvements and beaver control. Boundary work, sign replacement, self-clearing station maintenance, vegetation control and equipment and facility upkeep were performed on all WMAs. In addition, WMA personnel conducted user interviews and operated weigh stations. Wildlife food plots were planted on Camp Beauregard, Sabine and Elbow Slough. Most WMAs have a number of wood duck boxes that require annual maintenance. For the first time the LaSalle Parish School Board entered into a lease agreement with LDWF. The lease provided more than 1,000 additional acres of land to be included in the Dewey W. Wills WMA.

The technical staff consulted with DMAP clubs and private landowners on wildlife and habitat management issues, trapped and banded wood ducks, collected CWD samples, participated in the dove banding program, compiled data and submitted reports and handled miscellaneous problems along with routine duties. Region III procured wood duck boxes for statewide distribution. Continued emphasis was placed on the new LFW Program, with much time of the biological staff spent in training and learning about programs available to private landowners through other government or non-government entities. Region III biologists also conducted inspections of property enrolled in Wetlands Reserve Program contracts. For the third consecutive year, samples were collected for Avian Influenza monitoring. This was done in conjunction with nationwide efforts.

Region III staff continued to be the primary source of LDWF labor associated with U.S. Forest Service (USFS) projects. Some of the work performed by Region III biologists in conjunction with the USFS included conducting browse surveys, reviewing and commenting on projects, and consulting with USFS personnel on various wildlife issues.

REGION IV

Consists of six parishes in east central Louisiana:

- Caldwell
- Catahoula
- Concordia
- Franklin
- Madison
- Tensas

WMAs managed in Region IV:

- Big Lake
- Boeuf, Buckhorn
- Red River
- Sicily Island Hills
- Three Rivers

Habitat types of this region are very diverse, ranging from upland mixed pine-hardwood forests in the west, to the bottomland hardwood forests along the Mississippi River. Agricultural lands generally dominate the landscape, but the alluvial floodplains of the Boeuf, Black, Red, Ouachita, Tensas and Mississippi rivers produce a rich and varied topography that supports a bounty of resident and migratory birds and mammals.

The Region IV office is centrally located in the town of Ferriday, La. The WMAs managed by Region IV provide the public with over 158,000 acres of publicly-owned land on which to hunt, fish and enjoy the natural areas of the state. The self-clearing check stations of Region IV recorded over 38,200 hunters and fishermen and 2,100 non-consumptive users (campers, backpackers, ATV riders, birdwatchers, etc.) during fiscal year 2008-2009. Estimated numbers of hunters, fishermen and non-consumptive users of Region IV WMAs exceeded 96,300.

White-tailed deer remain the most popular species of game animal hunted on Region IV WMAs, and 18,121 hunter efforts were recorded for this species. These hunter efforts produced 1,242 harvested deer, or 14.6 efforts per deer. The rich, fertile bottomland habitats routinely produce trophy-class bucks each season, and Region IV is a popular destination for deer hunters coming from all parishes within the state, as well as from other states nationwide.

Almost 5,800 small-game hunters enjoyed a squirrel and/or rabbit hunt on Region IV WMAs. The bottomland hardwoods habitat of these WMAs is a squirrel hunter's paradise, and the thick, weedy vegetation produced by LDWF's extensive reforestation program provides hundreds of acres of attractive habitat for rabbit hunting. LDWF continues to develop and manage moist soil impoundments and greentree reservoirs for waterfowl

hunters in Region IV, and approximately 4,000 duck hunters took advantage of these areas. Turkey populations and turkey hunting efforts continue to expand, and over 1,800 turkey hunters harvested 53 turkeys on the WMAs. LDWF recognizes that the future of hunting and the outdoor sports depends on the involvement of our youth. The lottery youth turkey hunts on Big Lake and Sicily Island Hills WMAs continue to be popular. Twenty youth turkey hunters participated in these special lottery hunts during 2008-2009. A member of the National Wild Turkey Federation or a Region IV staff member served as a guide for each youth turkey hunter on these hunts. These experienced guides ensured a safe, quality hunt for the youngsters, and taught them turkey hunting techniques, hopefully inducing an interest in turkey hunting that will last a lifetime.

Youth deer hunts were conducted on almost every Region IV WMA during 2008-2009, but the most popular youth hunting opportunities in Region IV has to be the Buckhorn WMA youth lottery deer hunt. Sixty youth deer hunters are chosen by computer lottery drawing, allowing each youth hunter to hunt during one weekend in a specially managed area of the WMA. These youth hunters harvested a total of 39 deer, and many of them harvested their first and maybe even their second deer. LDWF provided 10 elevated box stands, each overlooking a specially planted food plot, for the youth hunters. Both youth hunters and a supervising parent were extremely pleased with the hunt facilities, safety precautions and operation of the hunt.

An additional feature of this special hunting area was the provision of four wheelchair-accessible box stands that had been built by Region IV employees. The wheelchair accessible stands were used several times, and two deer were taken by wheelchair-confined hunters.

The "Wish I Could ATV Trail Ride," an annual one-day ATV trail riding event, was held on Boeuf WMA on June 5, 2009. The event attracted approximately 5,250 ATV riders, who entered the WMA to ride the 17-mile long trail. This ATV trail ride is sponsored by a charitable organization and is legislatively mandated. Even though this event is extremely popular, it has caused extensive ecological damage to hundreds of acres of bottomland hardwoods habitat, virtually destroying the original ATV trail that once formed its location.

During fiscal year 2008-2009, 155 private landowners and hunting clubs in Region IV enrolled 263,362 acres of property into the LDWF deer management (DMAP and LADT) programs. Enrollment in these programs has been declining ever since private land deer hunters were allowed to take antlerless deer on any day of the deer hunting season. Despite this trend, a significant number of private landowners still recognize the valuable deer management assistance that LDWF provides through these programs. As part of the DMAP program, Region IV biologists provide private landowners with biological habitat surveys, harvest recommendations, computerized record keeping and an annual harvest summary.

Most people associate Louisiana alligator hunting with the traditional marsh and swamp habitats located in the state's coastal zone. However, alligator hunting is very popular in northeastern Louisiana. During 2008, the Region IV alligator program issued 669 tags to alligator hunters (439 tags to private land hunters and 230 to public lakes and WMA lakes hunters). A total of 102 hunters harvested 525 alligators (78 percent of the tags issued). Alligator hunting in the coastal zone may be largely seen as a commercial activity, but in northeastern Louisiana it is commonly enjoyed as a social and recreational event. Record high alligator hide prices during 2008 resulted in an economic boon as well as an enjoyable recreational pursuit.

REGION V

Consists of nine parishes in southwest Louisiana:

- Acadia
- Allen
- Beauregard
- Calcasieu
- Cameron
- Evangeline
- Jefferson Davis
- Vermilion
- Vernon

WMAs managed in Region V (total of 260,000 acres):

- Clear Creek
- Fort Polk
- Marsh Bayou
- Peason Ridge
- Sabine Island
- Walnut Hill
- West Bay

Habitat ranges from extensive coastal marshes, to prairies and vast agricultural areas, to hardwood bottoms, to rolling hills of pine plantations and mixed pine-hardwoods.

Region V personnel administered a variety of Wildlife Division activities. These include environmental assessments, technical assistance, research, planning, development, management and alligator and nuisance animal programs. Technical advice is provided to the public, NWRs, state, federal and local agencies. Region personnel assisted 105 deer hunting clubs encompassing 250,958 acres enrolled in the DMAP and LADT programs. In September, special public dove hunts were held on two areas totaling 800 acres of land leased to LDWF, with 414 hunters harvesting 1,503 doves. Region V handled a large number of resident alligator hunting applications issuing 52 licenses, 373 tags and five non-resident alligator hunting licenses, and also provided the shipping requirements for alligator hides. The Region V office handled 110 nuisance alligator complaints.

The WMAs are managed for a variety of fish and wildlife and to provide outdoor recreational opportunities. These areas are readily accessible and are very popular with the public. Along with public hunting and fishing opportunities, these areas provide many types of non-consumptive

activities. A total of 39,447 people (315,576 hours of recreation) used these areas from November 2008 - October 2009 which increased 25 percent from the previous year. Four wheelchair-bound hunting blinds were built in the "Limited Use Area" of Clear Creek WMA which provided quality deer and turkey hunting for qualified hunters. Managed deer hunts on the four largest WMAs within the region resulted in 21,444 hunting efforts that yielded 1,164 deer. Two areas offer special deer seasons for youth and handicapped hunters. Over 2,355 turkey hunters harvested 63 gobblers from three WMAs. Special youth turkey hunting seasons were conducted on three areas which were great successes.

The WMAs are leased free of charge to LDWF for public use from private landowners (Forest Capital Partners LLC, Roy O. Martin, U.S. Army, USFS, Forest Investments, Calcasieu School Board, Molpus and the State of Louisiana). To continue these lease areas, region personnel are required to meet and negotiate annual agreements with the landowners. The leases help the landowners properly manage and maintain their properties for wildlife and public recreation.

LDWF partnered with CLECO Power and the National Wild Turkey Federation to establish turkey food plots on service rights-of-way and abandoned roads within Clear Creek and West Bay WMAs. LDWF also partnered with U.S. Army and USFS to establish turkey and quail food plots on Fort Polk WMA.

REGION VI

Consists of 13 parishes in south central Louisiana:

- Avoyelles
- Assumption
- Iberville (majority)
- Iberia
- Lafayette
- Pointe Coupee
- St. Landry
- St. Martin
- St. Mary
- Terrebonne
- West Baton Rouge
- West Feliciana and Ascension (portions)

WMAs managed by Region VI (total of 120,077 acres):

- Acadiana Conservation Corridor
- Attakapas
- Elm Hall
- Grassy Lake
- Pomme de Terre
- Sherburne
- Thistlethwaite
- Spring Bayou

One USFWS Refuge (Atchafalaya NWR) and two U.S. Army Corps of Engineers (USACE) properties (Bayou des Ourses and Shatters Bayou), are also managed within Region VI.

Habitat types range from mixed pine-hardwoods, to back-water bottomland hardwoods interspersed with agricultural lands, and cypress-tupelo swamps, to open-water areas.

Region VI personnel administer and manage a variety of wildlife oriented activities. Region personnel work in conjunction and provide technical advice to many different agencies, including other state agencies, USFWS, USACE, Louisiana Department of Natural Resources (LDNR), Louisiana Department of Environmental Quality (LDEQ), USDA and local parish entities. Region personnel administer environmental assessments, technical assistance, research, development/management and alligator and nuisance animal programs. Private lands assistance was administered to all who requested assistance, with 86 contacts made and 17 management plans written for private individuals. Region biologists attended four continuing education seminars and conducted 16 on-site inspections of private lands enrolled in the Natural Resources and Conservation Service Wetlands Reserve Program. Personnel assist with projects ongoing in the region, such as dove and wood duck banding, and deer, woodcock, turkey, black bear and non-game research projects. Region biologists worked with 110 DMAP clubs encompassing over 266,823 acres on which approximately 3,200 deer were harvested. In addition to DMAP, LADT tags were issued to 70 cooperators, involving 107,083 acres on which approximately 1,200 deer were harvested.

The WMAs are maintained and managed to provide outdoor recreation opportunities for all user groups, including both consumptive and non-consumptive. WMA personnel performed a variety of development and maintenance functions such as boundary marking, building maintenance, road maintenance, water control structure operation, moist soil management, beaver and other nuisance animal control, farm contract supervision, equipment maintenance, public user data collection, vegetation control, food plot planting, reforestation and conducting managed hunts.

Recreational user days recorded on Region VI WMAs totaled 90,514 by hunters, fishers, campers, sightseers, bird-watchers and other public users.

White-tailed deer is the most popular game species hunted in the Region. Either-sex deer hunts were held on WMAs, with over 7,700 user-days recorded, with approximately 450 deer harvested on these hunts. In addition, bucks only, youth/handicapped, archery and muzzleloader hunts also took place, where an additional 600 deer were harvested. Turkey hunts were held on four WMAs, where 49 turkeys were harvested by an estimated 1,021 users. This includes 20 youth hunters who participated in the Sherburne and Thistlethwaite youth lottery hunts. A member of the National Wild Turkey Federation or a Region VI staff member served as a guide for each youth hunter to ensure a quality hunt and teach youth the techniques and safety of turkey hunting. Squirrel and rabbit hunting is also very popular on the region's bottomland

hardwood WMAs, accounting for over 8,000 user days. Waterfowl hunting is also very popular on Region VI WMAs in moist soil impoundments, greentree reservoirs, swamps and flooded bottoms. Waterfowl user days totaled about 7,000 for this period. Dove fields are maintained, along with many acres of food plots. Biologists and technicians maintain and monitor over 800 wood duck boxes, conduct pre-season wood duck banding, collect samples for CWD, Avian Influenza and other disease testing. They also respond to numerous nuisance animal, illegally held deer and sick deer complaints. Biologists assisted LSU researchers with ongoing research projects.

Youth lottery deer and duck hunts were also held in Region VI, with great success on these hunts. Sixteen youth waterfowl lottery hunters harvested 74 ducks, for an average of 4.6 ducks per youth hunter. Thirty youth deer lottery hunters harvested seven deer, but many deer were observed and some harvest opportunities were missed. These hunts are held in refuge areas set aside for youth hunts, where these youth hunters have a quality hunt and learn about hunting in a safe environment. Wheelchair-bound waterfowl and deer hunts were held in Region VI with much participation and success from this group of hunters.

Alligator applications were reviewed, and licenses and tags were issued to about 60 private property hunters. There were seven WMA alligator hunters who were issued 193 tags and filled 192 tags. The average length of the alligators harvested was 7 feet 3 inches, with an average price of \$33.90 received for the alligators.

A new double ramp boat launch was completed on Sherburne WMA on Big Alabama Bayou to access this waterway and the WMA.

Routine maintenance activities on Region VI areas included road grading, culvert replacement, spot road repairs, drainage improvements, beaver control, boundary work, sign replacement, self-clearing station maintenance, vegetation control, equipment maintenance and facility upkeep were performed. In addition, WMA personnel conducted user interviews and operated weigh stations. Wildlife food plots were also planted on several Region VI WMAs.

REGION VII

Consists of 18 parishes in southeast Louisiana:

- Ascension (majority)
- East Baton Rouge
- East Feliciana
- Livingston
- Orleans
- Jefferson
- St. Helena
- Tangipahoa
- Washington
- St. Tammany
- St. Bernard
- St. James
- St. John

- Plaquemines
- St. Charles
- Lafourche
- West Feliciana (majority)
- Iberville (portion)
-

WMAs managed in Region VII (total of 164,837 acres):

- Pearl River
- Joyce
- Manchac
- Sandy Hollow
- Ben's Creek
- Hutchinson Creek
- Tunica Hills
- Maurepas Swamp
- Tangipahoa Parish School Board
- Lake Ramsey

Habitat types range from marshes and swamps, to rugged loess bluff uplands.

The WMAs are open for public use such as hunting, fishing, bird watching, sightseeing, boating, hiking, horseback riding, photography and berry picking, as well as many other outdoor recreational activities. Over 101,120 user days were recorded on the WMAs during fiscal year 2008-2009. An alligator season was open on four WMAs harvesting 880 alligators which generated a return of \$89,546 to the Conservation Fund. To facilitate recreational alligator harvest, 30 additional people were selected by lottery to harvest up to three alligators each on the Pearl River and Joyce WMAs. An additional \$127,708 was added to the Conservation Fund as a result of alligator egg collections on the WMAs. Region personnel began posting some 1,691 acres of new WMA lands acquired during the year as well as maintaining existing WMA boundaries, buildings, equipment, roads and trails. Managed public hunts were also conducted on several region WMAs.

As with other regions during fiscal year 2008-2009, Region VII reorganized its biological staff to better serve both private landowners and the region's WMAs. Region staff continued in the development of the LFW Program. Biological staff attended and held various seminars directed toward improving wildlife habitat on private land. Private lands biologists visited 67 LFW sites and participated in 20 seminars. WMA habitat improvement work continued to be a region priority. Two hundred acres of marsh at Pearl River WMA was burned to remove hurricane debris and encourage new herbaceous growth. Eighteen acres of hurricane damaged forest were chemically treated to remove Chinese tallow trees on Pearl River WMA. Efforts to control encroaching vegetation continued on 25 miles of trails and 20 acres of food plots. In conjunction with the Louisiana Department of Transportation and Development, seven bridges were inspected and repaired on Pearl River WMA. On the Sandy Hollow WMA, 1,650 acres of longleaf pine habitat were enhanced by prescribed burning. Three miles of bird dog field trial courses were maintained, as well as six dove fields and 10 acres of upland bird food plots on

Sandy Hollow. Over 200 additional acres were prescribed burned on the Lake Ramsay WMA by The Nature Conservancy. Work began on a new primitive camp ground on the Tunica Hills WMA that was opened in the fall of 2009.

Region biologists and technicians worked with 106 DMAP cooperators on 230,195 acres and 20 LADT cooperators on 14,664 acres, maintained 210 wood duck boxes, participated in the statewide mourning dove banding program, responded to numerous deer and nuisance animal complaints, provided technical assistance to the public, conducted public meetings and collected white-tailed deer brain and lymph node samples across the region for CWD testing. Duck trapping operations were conducted with 566 wood ducks and 77 black-bellied whistling ducks being banded. Region biologists continued to work with the deer program manager to collect deer reproductive data to better pinpoint peak deer breeding periods within the region.

Feral hogs that can threaten native wildlife populations continue to expand in many parts of the region. Aggressive control methods have been used on certain WMAs such as Pearl River to reduce their numbers. Each year feral hog blood samples are tested for a variety of diseases.

EDUCATION

Conservation education is a vital part of the LDWF mission. The Education Section, within the Wildlife Division focused on three main areas: Hunter Education; Aquatic Education; and General Wildlife Education. Staffing for the Education Program consists of 14 educators who work in the field, three supervisors, one administrative specialist, one education manager and one education program manager. Three wildlife technicians staff LDWF-operated shooting ranges, and one maintenance repairer is responsible for maintenance of an education facility.

HUNTER EDUCATION

LDWF's Hunter Education Program provided training and certification in hunter education, bowhunter education and muzzleloader education, as well as assisting with other related educational programs.

Administration

Certification cards for hunter and bowhunter education students and instructor courses were provided to persons who successfully completed the necessary requirements. Hard copies were filed as well as stored electronically all for courses administered. Certification cards are now printed by a contracted vendor. An on-line request for duplicate hunter and bowhunter education cards has been developed and placed on the LDWF web site. Users can now retrieve their certification number and request a hard copy of their card on-line. Requests generated on-line and through course paperwork submitted to the headquarters office is sent electronically to the vendor to be printed.

Due to travel restrictions, no LDWF staff attended the Region IV hunter education administrators or the IHEA convention in 2009.

Student Certification

A total of 520 hunter education courses were provided to the general public resulting in the graduation of 17,549 students. Of this total, 15,316 participated in the traditional classroom course and 2,233 by alternative study. Louisiana also provides bowhunter education for persons requiring that training. A total of 38 bowhunter education student courses were taught and 852 people were certified.

Instructor Training

A total of 104 new volunteer hunter education instructors were trained and provided with credentials to teach hunter education through 12 instructor courses. In addition, two bowhunter education instructor courses resulted in 11 persons being certified to teach bowhunter education. One statewide workshop was conducted at Camp Grant Walker in Pollock, La. with 89 instructors in attendance.

Volunteers contributed 19,957 hours of in-kind service time for fiscal year 2008-2009.

Hunting Incidents

A total of eight hunting incidents were documented in fiscal year 2008-2009. Five were Class-A incidents, all non-fatal. Three incidents were Class-B, which included two tree stand incidents and one stroke while hunting. Results were compiled by type and category and entered into the National Hunter Education Incident Database and made available to volunteer hunter education instructors.

Shooting Range/Training Facilities

LDWF staffs and operates two education centers and four public shooting ranges.

Bodcau Shooting Range

Located in Webster Parish on Bodcau WMA, this range offers rifle, handgun, archery and clay target shooting opportunities to the public. It is staffed by one wildlife technician and is open three days a week. It sees a high degree of use from shooters in the northwestern portion of the state.

Woodworth Education Center

The Woodworth Education Center located in Rapides Parish, contains a classroom, sleeping facilities and a public shooting range. Volunteer help to operate the range is provided by the Bayou State Muzzleloaders Association.

Sherburne Shooting Range

Located in Pointe Coupee Parish, the Sherburne range consists of one combination skeet and trap field, one archery range, one handgun range and one rifle range. It is operated by one technician and is open to the public seven days per week. In 2008, the Sherburne range facility suffered damage from Hurricane Gustav. The roof and frame on both of the rifle and handgun range had to be

repaired. The pavilion on shotgun range #2 was completely demolished and has since been rebuilt.

Waddill Outdoor Refuge

The Waddill Outdoor Refuge in East Baton Rouge Parish provides a needed outdoor education environment in an urban setting. The classroom, solar power shotgun range and outdoor setting provide an ideal opportunity to teach hunter education. The refuge is staffed by one biologist and one technician.

Honey Island Shooting Range

The Honey Island shooting range is located on Pearl River WMA in St. Tammany Parish. The range is managed under a Memorandum of Understanding with Southeast Louisiana Firearms Safety, Inc (SELF). This group is a non-profit organization that handles all aspects of operating the range for public use. Shotgun, rifle and handgun shooting opportunities are available to the public. The SELF group is currently installing solar power to provide electricity to the range and upgrading the shotgun portion of the range to increase shotgun shooting opportunities. All upgrades are being conducted by SELF and are paid for with shooting fees at no cost to LDWF.

There were 5,555 volunteer hours accrued from the Woodworth and Pearl River Ranges.

AQUATIC EDUCATION

The Education Section of LDWF introduces people to the sport of fishing and promotes awareness of the aquatic resources in the state through both public programs and teacher training.

Administration

Volunteer hours from field activities were documented and stored electronically. Standard equipment such as fishing tackle for fishing programs were purchased as needed. A 20-foot Carolina Skiff was purchased to replace an aging bay boat that had become unsuitable for use. The aquatic education section also has a pontoon boat in its inventory and both watercraft are used for special program functions. In addition, aquatic staff participated in following conferences:

- Southern Association of Marine Educators
- American Fisheries Society Conference
- LUMCON's H2O Water Quality Teacher Workshop (mentor)
- Gulf of Mexico Diversity (Underserved/Underprivileged) Symposium

Curriculum & Training

Clinics

Aquatic education clinics were held statewide that resulted in 6,955 volunteers hours generated. Subjects covered in aquatic education clinics include outdoor ethics, fish identification, tackle selection and fishing techniques. Participants also are involved in actual fishing activities.

Publications

Three publications, "Fishing For Fun," "Let's Go Fishing" and "Finnie The Fingerling" were distributed to teachers

in the school system for classroom use. A total of 7,802, 6,811 and 3,927 workbooks were used respectively. These publications promote an appreciation of aquatic resources and their habitat.

Workshops

Teacher workshops were conducted to provide training in aquatic education that can be brought back to the classroom. The following workshops were conducted:

Project Wild (Aquatic)

Teachers were provided with guidance and materials to conduct classroom activities to make students aware of aquatic resources and their habitat. A total of 75 teachers were trained in six workshops on the use of Project Aquatic Wild materials.

Wetland Education for Teachers (WETSHOP)

WETSHOP is a week long teacher work shop that focuses on the important role wetlands play in our coastal ecosystem. Teachers spent time learning about wetland plant communities, aquatic life and how fragile coastal ecosystems can be. Partial funding was made possible through a grant by the Barataria-Terrebonne Estuary Program, which partners with LDWF to host this workshop. A total of 18 teachers were trained and equipped to return to their respective jurisdictions and train additional teachers on how to educate their classroom students in wetland education.

Coastal Wetland Workshops

Coastal Wetlands Workshops were held to train teachers on the subject of wetlands ecology in coastal habitats. "Wonder of Wetlands" manuals as well as other resources were issued to enable teachers to bring this knowledge back into the classroom. A total of 12 workshops were held statewide which resulted in 137 teachers being trained.

Hatchery Education

Educational programs were held at the Booker Fowler Fish Hatchery to demonstrate the techniques used to raise fish in an artificial environment. Tours of the hatchery were conducted for school students and the general public. Educational materials and special presentations were made available through the visitor center. There were approximately 500 students educated through the hatchery aquatic education program this fiscal year.

Native Fish in the Classroom (NFC)

NFC is a multidisciplinary, classroom-based aquaculture stewardship project for intermediate to high school students. The goal of NFC is to assist students in developing an attitude of stewardship toward natural resources and to create a constructive, active learning situation in which they can explore strategies for sustaining aquatic ecosystems. Students obtain hands-on, real-science knowledge of the state's native aquatic resources.

During the 2008-2009 school year, 20 Louisiana teachers participated in the NFC program which impacted approximately 3,000 students. Teachers attend several work-

shops and meetings to ensure successful preparation for receiving paddlefish eggs in the spring. Teachers participated in the spring paddlefish spawn where they received paddlefish eggs. Louisiana paddlefish were raised from eggs to fingerlings which were returned to the LDWF Booker Fowler Fish Hatchery. Schools bring students on a field trip to the hatchery to return their classroom raised fish. The hatchery then returned the fish to the wild.

"Finnie the Fingerling"

This workbook was developed to provide guidance on the inner workings of how the day to day operations of a fish hatchery are conducted. Readers are taken on a guided tour by "Finnie the Fingerling" of the Booker Fowler Fish Hatchery. Information is provided on how fish are spawned and released into the wild.

GENERAL WILDLIFE EDUCATION

National Hunting & Fishing Day

The general public is shown appreciation of its support by being invited to join LDWF in an open house atmosphere that involves hands on activities and a closer look at department sponsored programs and activities. The Hunter Education Section provided training for the public in the safe use of shooting equipment. Four LDWF-sponsored events were held at Bodcau WMA, Monroe office facility, Woodworth Education Center and Waddill Wildlife Refuge. A total of 7,996 participants attended.

Becoming an Outdoors Woman (BOW)

BOW continues to be a popular program with women interested in learning about outdoor recreation. Education staff and volunteers conducted activities which taught outdoor skills including shooting, fishing, canoeing and wildlife appreciation. One statewide event was conducted.

Families Understanding Nature (FUN) Camp

FUN Camp provides both fun and education to a parent and youth through a weekend of staff lead outdoor activities. Family members are introduced to the safe use of firearms and other recreational shooting equipment. The education staff participated in two FUN Camps for this fiscal year.

National Archery in the Schools Program (NASP)

The Louisiana state NASP tournament was held Feb. 21, 2009 at C.E. Byrd High School in Shreveport, La. Currently, 41 schools are conducting NASP training as a part of their curriculum. LDWF currently has a Shooting Sports Coordinator position to promote NASP in Louisiana.

Non-governmental Organization Activities

The education staff supports and participates in activities sponsored by non-governmental organizations such as Ducks Unlimited, the Wild Turkey Federation and the Quality Deer Management Association which provide opportunities to educate the public about wildlife conservation and hunting safety.

COASTAL & NON-GAME RESOURCES

ROCKEFELLER WILDLIFE REFUGE

Rockefeller Wildlife Refuge, located in coastal Cameron and Vermilion parishes, was created in 1920 through a land donation developed by E.A. McIlhenny. He persuaded the Rockefeller Foundation to deed the area to Louisiana for preservation and protection of migratory birds. The area is intensively managed for waterfowl, and is one of the most important wildlife areas in the United States. It serves as an outdoor laboratory for one of the nation's largest wetland ecosystems.

The Rockefeller Foundation modified the deed in 1944, giving reversionary interest in the property to the U.S. Fish and Wildlife Service (USFWS) if the state fails to honor the terms of the deed. Changes to the deed, one of which requires periodic reviews of refuge programs, have been made by mutual consent between USFWS and the Louisiana Department of Wildlife and Fisheries (LDWF).

During fiscal year 2008-2009, recovery following Hurricane Rita, which struck the Louisiana coast on Sept. 23, 2005, continued as did most management and research programs. It is estimated that the hurricane caused approximately \$16 million in damage to the refuge. All of the management unit levees and water control structures were damaged to varying degrees. Temporary emergency repairs continued utilizing LDWF equipment to prohibit saline Gulf waters from impacting LDWF and private lands adjacent to the refuge.

On Sept. 13, 2008 Hurricane Ike came ashore east of Galveston, Texas raking the Louisiana coastline and flooding southwest Louisiana. Ike was categorized as the third most destructive hurricane to make landfall in the United States. Estimated damages to Rockefeller Refuge were:

- \$1.1 million to buildings, roads, supplies and equipment
- \$500,000 to water control structures
- \$5 million to levees.

Considerable time was spent evaluating and documenting storm damage. Just before the storm, Hurricane Rita repairs, totaling \$1.5 million to the shop, tractor shed, lumber shed and airboat shed were completed. The newly repaired buildings suffered extensive damage, and the



main maintenance shop was inundated with 4.2 feet of water. Minor wind damage occurred to elevated structures including the office, general quarters and four residence homes. Temporary repairs continued on the office, general quarters dormitory and several residences.

Plans are being made to refurbish approximately 49 miles of levees from Deep Lake to Rollover Bayou in order to exclude excessive saline water from the refuge and Mermentau Basin which will help protect the agricultural and rice growing areas in northeastern Cameron and Vermilion parishes. To aid in orderly hurricane recovery, the administration, in consultation with an architectural firm and a master plan, elected to proceed in phases. Phase 1 reconstruction included rebuilding of the workshop, equipment, boat storage and materials storage buildings.

MARSH MANAGEMENT, RESTORATION, HABITAT ENHANCEMENT & MINERAL MANAGEMENT

Rockefeller's staff maintains over 200 miles of levees and 40 water control structures which result in conservation of approximately 76,000 refuge wetland acres, and also enhances water management capability of 100,000 private sector acres within the Mermentau River Basin. Objectives of maintenance and manipulation of the refuge's system of levees and water control structures vary somewhat by management unit, but general goals are to

maintain marsh health, provide conditions favorable for production of waterfowl food plants and incorporate multi-species management when possible.

Emergency action to reduce flooding, provide ditch cleaning, and repair the water control structure and Lo-lift Pump continued as a result of damage sustained from hurricanes Rita in 2005 and Ike during fiscal year 2008-2009. The Unit 6 protection levee was cut at Deep Lake to remove flood water from the Mermentau Basin caused by storm surge and rain associated with Hurricane Ike. Two amphibious excavators were used to clean storm debris from approximately 11 miles of ditches and tributaries to re-establish hydrology and water flow in the West Goose Pasture, Units 1 and 6, which enhanced 14,850 wetland acres.

Many of the lift pumps and their associated pump sheds were damaged following Hurricane Rita, and sustained additional damage during Hurricane Ike. Rockefeller staff repaired engines, pumps and pump sheds at Units 1, 8, 13 and 14. Pumping operations in fiscal year 2008-2009 removed Hurricane Ike floodwater from four management units enhancing 6,450 wetland acres.

LDWF received a \$508,113 North American Wetlands Conservation Act (NAWCA) grant through a cooperative effort between Ducks Unlimited and Rockefeller Refuge staff to refurbish the Tolan Lake water control structures. The three-pipe and four-pipe structures were replaced to reestablish historic hydrology to the area which will enhance approximately 10,000 private and 7,500 refuge wetland acres. Construction was completed fiscal year 2008-2009.

LDWF entered into an agreement with the U.S. Army Corps of Engineers (USACE) and other regulatory agencies to the construct the Rockefeller Mitigation Bank to offset wetland losses caused by adverse impacts which occur following activities in Louisiana's Coastal Zone. The major objective of LDWF in establishing the Mitigation Bank is to compensate for impacts occurring on Rockefeller Refuge. However, it still may be considered as compensation for impacts outside the refuge provided there are no available approved mitigation projects.

LDWF originally permitted three areas on Rockefeller Wildlife Refuge as potential sites to serve for mitigation in 2000.

- Site 1 is a brackish 4.7-acre site near LA 82
- Site 2 is a 107-acre brackish area just south of the East End Locks
- Site 3 is a 66-acre salt marsh area west of Deep Lake.

Smooth cord grass and marsh hay cord grass will be planted. Soil samples were taken from borrow areas in 2004 and subjected to Atterberg Limits Test. In 2005, borrow areas were tested for priority pollutants. All tests results were below normal background levels. Actual work began on the 4.7-acre site in September 2007.



Dredging was completed Jan. 25, 2008 and four months later it was surveyed. Trial plantings were conducted in July 2008 during drought conditions followed by the Sept. 13 Hurricane Ike; another dry period followed. The final as-built-survey was conducted in April 2009; planting will follow.

On June 17, 2009 a contract was negotiated with HDR Engineering to make surveys and develop specifications and drawings for the 66-acre site with an estimated cost of \$2 million. These expenses will be reimbursed through the Mitigation Bank as credits are purchased.

The refuge was fortunate in that a Coastal Impact Assistance Program (CIAP) project was selected for Rockefeller Refuge to evaluate different test scenarios for shoreline stabilization. Presently the refuge is losing over 100 acres annually to beach erosion. Sponsored by the Louisiana Department of Natural Resources (LDNR), the \$9.3 million project began in June 2009 with construction of a low profile reef breakwater section. This was followed by placement of a section of beach fill constructed of crushed stone, and the last test was a rock reef breakwater placed on a lightweight aggregate core. After construction which will be complete in December, different types of measuring instruments will be placed strategically to evaluate the sections.

ORA Technologies, LLC initiated a project on Rockefeller in June 2007 to evaluate stabilization of canal banks with specially designed structures that promote the creation of artificial oyster reefs. Small oysters attached to the structures shortly after installation. In 2009 a graduate student began evaluating slightly different designs and measuring growth and material deposition. A similar version of this technology is planned to be tested for Gulf of Mexico shoreline stabilization along the refuge in 2010 just east of the CIAP Demonstration project.

Rockefeller staff conducted the seventh year of vegetative transects on Rockefeller Refuge. The survey consists of over 1,500 survey plots spread evenly throughout the refuge. All species present as well as a percent cover of each species is recorded. This long-term program is designed to monitor changes in vegetative composition within individual management units. These changes in vegetative composition will be used in future management decisions.

Controlled burning is conducted on Rockefeller Refuge to remove rough and litter, which reduces the chances of unwanted lightning fires, sets back vegetative succession and promotes the growth of desirable wildlife food plants. Generally, one-third of the refuge is burned on a yearly basis. During fiscal year 2008-2009, 18,000 acres were burned in Units 3, 5 and 6, Price Lake and the unmanaged area west of Price Lake.

WATERFOWL PROGRAM

Rockefeller and New Iberia biological staff conducted three waterfowl surveys on three coastal refuges, one wetland conservation area and four wildlife management areas (WMAs), which included Rockefeller Refuge, State Wildlife Refuge, Marsh Island Refuge, White Lake Wetlands Conservation Area, Atchafalaya Delta WMA, Point-aux-Chenes WMA, Salvador WMA and Pass-a-Loutre WMA.

In 1994, Rockefeller Refuge began a long-term mottled duck banding program to monitor annual survival rates and analyze distribution along the Gulf Coast between Texas and Louisiana. The banding effort is now a cooperative endeavor with Texas and Louisiana and involves many state and federal biologist, technicians and student workers. Some of the early analysis of data has shown



high variability in survival rates with little mortality being attributed to hunting. Coastal and Non-game Resources Division biologists completed the 15th year of this program during fiscal year 2008-2009. LDWF personnel banded 2,980 mottled ducks statewide in 2008, bringing the total from 1994-2008 to 34,184.

Rockefeller and New Iberia staff conducted the visibility correction portion of the second annual Mottled Duck Breeding Bird Survey.

The Mottled Duck Survey is a cooperative effort of the Gulf Coast Joint Venture, USFWS, Texas Parks and Wildlife Department, LDWF and Louisiana State University (LSU). It involves flying fixed-wing aircraft over 27 coastal transects and then "beating out" selected segments with a zig-zagging helicopter and traversing similarly selected segments with an airboat to develop a visibility correction factor to adjust estimates from the fixed-wing. The survey is conducted over four days with a one-day offset between fixed-wing and helicopter/airboat. Rockefeller staff also conducted the airboat portion of the survey.

Rockefeller staff assisted LSU and Ducks Unlimited with two telemetry projects. In winter 2008, 46 female (34 adults, 12 juveniles) gadwall were captured, fitted with satellite transmitters and released on and around the Rockefeller area. This study was designed to provide an unbiased assessment of habitat use and large scale movement of gadwall along the Chenier Plain. In summer 2008, 109 mottled duck females were captured and fitted with internal VHF transmitters. All 109 mottled ducks were captured and released by Rockefeller and other LDWF staff. This study is designed to study seasonal survival of western Gulf Coast mottled ducks, the extent and timing of movements along the Gulf Coast and habitat use during the molt and breeding season.

Rockefeller staff continues investigating the suitability of White Lake Conservation Area for the re-introduction of whooping cranes. This study is a cooperative effort with

Dr. Sammy King and LSU. The study primarily evaluates forage availability on the property's 52,000 acres of fresh marsh. Through the use of throw traps, minnow traps and dip nets we are sampling all aquatic macro-invertebrates, fish and crustaceans available for foraging whooping cranes. We are also sampling vegetation height, density and composition in order to evaluate nesting potential of the property. Continuous water level recorders have been installed at all sampling sites in order to evaluate the area suitable for foraging throughout the crane's annual cycle. Although, the study will focus on White Lake it will also evaluate other wetlands in the area including but not limited to Rockefeller Refuge.

ALLIGATOR REMOVAL & FUR TRAPPING

A successful nuisance alligator trapping program to remove animals from high human use areas was conducted on Rockefeller Refuge between Sept. 6-8, 2008. The season was scheduled to open Sept. 3, 2008, but was delayed for a few days as a result of Hurricane Gustav impacting the Louisiana coast on Sept. 1, 2008. All alligators were harvested before Hurricane Ike struck the area on Sept. 13, 2008. Eight hunters removed 320 alligators in three days. Average size was 7.53 feet with an average live length value of \$38.26 per foot. The sale of alligators totaled \$92,035.41, with LDWF receiving 40 percent of the revenue totaling \$36,814.17.

Fur trapping did not occur on Rockefeller Refuge during fiscal year 2008-2009 due to the low numbers of furbearers present on the refuge after Hurricane Rita in 2005 and Hurricane Ike in 2008. Storm surges from the hurricanes and drought conditions after the storms reduced furbearer populations in the region.

WATCHABLE WILDLIFE PROGRAM

Bald eagle populations have made a tremendous recovery in Louisiana and throughout the United States, and were removed from the endangered species list on June 28, 2007. There were four active nests identified in Louisiana between 1954 and 1960. In fiscal year 2007-2008, 530 young were produced from 387 active nests. LDWF discontinued annual intensive surveys since delisting. Rockefeller Refuge staff worked with USFWS to develop a fixed-wing aerial survey technique to replace helicopter surveys to monitor bald eagle populations in the future. An experimental survey is planned for fiscal year 2009-2010 and will be conducted every three to five years.

Rockefeller Refuge staff continued education and outreach activities with talks and information dissemination. One staff member was a featured speaker and guide at the annual Bald Eagle Expo held in Morgan City, La. Over 120 guests participated in the program.

Brown pelicans were common Louisiana coastal residents in the early part of the 19th century, with the population ranging from 12,000 to 85,000 prior to 1930. Nesting ceased in Louisiana in 1961 and disappeared from the state in 1963 due to the use of pesticides, especially Endrin, a DDT relative. From 1968 to 1980, 1,276 7-to-8-week old young were reintroduced to Louisiana from



Florida at three release sites from 1968 to 1980. Over 375,000 brown pelicans have been produced in Louisiana since 1971. The brown pelican has been proposed for delisting during fiscal year 2008-2009 as a result of species recovery throughout the United States. LDWF is working with USFWS to develop a post-delisting monitoring plan.

The Brown Pelican Translocation Project which is a cooperative research effort between LDWF and University of Louisiana at Lafayette continued in fiscal year 2008-2009 with 106 7-to-8-week old young moved from Last Island to Whiskey Island. In addition, 502 brown pelicans were banded. Over 300 young pelicans have been moved to Whiskey Island over the last three years. The second component of the four-year project continued with researchers studying life history with special emphasis on nesting ecology.

RECREATIONAL USE

Marsh enhancement units managed by structural means have proven popular with sports fishermen, resulting in overcrowding in many places. Damage to levees and alterations of automatic features of structures that regulate water salinities and levels has been a problem. In



addition, heavy public usage has placed a strain on boat launch and parking facilities. According to data collected in 2008-09, it was estimated that Rockefeller Refuge experienced approximately 115,200 man-days of public use. Of this, approximately 111,580 man-days were used for consumptive use, and about 3,620 were used for non-consumptive activities.

ESTUARINE FISHERIES PROGRAM

Rockefeller Refuge staff's ability to manage estuarine organism populations remain severely limited due to the destruction caused by Hurricane Rita. The situation will continue until repairs to critical levees and water control structures are completed and functioning properly. Though the primary goal of the division is habitat management/restoration, personnel are able to strategically allow ingress and egress of organisms into the Superior Canal complex and several other management units when habitat integrity will not be compromised. Rockefeller Refuge continued its fisheries monitoring program in conjunction with various habitat management/restoration strategies. Rockefeller Refuge staff continued efforts in stocking Florida-strain largemouth bass to supplement bass populations on the refuge. Approximately 70,300 fingerlings were released in June 2009.

TECHNICAL ASSISTANCE, OUTREACH & EDUCATION

Refuge personnel continued its outreach program, hosting several events to educate elementary, high school and college classes in wildlife and wetlands sciences.

Rockefeller Refuge again hosted the annual 4-H Marsh Maneuvers Camp. Sixty three students from 17 Louisiana parishes participated in this-month long camp which is designed to educate high school students in the importance of coastal marsh erosion, restoration, conservation and ecology.

RESEARCH AND PUBLICATIONS

Cooperative studies conducted at Rockefeller Refuge concerning wildlife and wetlands ecology during fiscal year 2008-2009 include:

- Use of Morphometric Measurements to Differentiate Between Species and Sex of King and Clapper Rails.

- Polycross Seed of Genetically Diverse Smooth Cordgrass (*Spartina alterniflora*) for Erosion Control and Habitat Restoration.
- Effectiveness of Capture Techniques for Wintering Rails in Southern Louisiana and Texas.

WHITE LAKE WETLANDS CONSERVATION AREA

The White Lake Property (as referred to in Act 613, 2004 Louisiana Legislature), or White Lake Wetlands Conservation Area (White Lake, as referred to by the LDWF), is located in Vermilion Parish, La. The contiguous unit is 70,965 acres, located along the western boundary of Vermilion Parish; it is bounded on the south by White Lake; the northern boundary is 7.4 miles south of Gueydan at the south end of LA 91. Lafayette is 32 air miles northeast, and Lake Charles is 40 air miles northwest. The southern boundary of White Lake is 17.5 miles north of the Gulf of Mexico. The property averages 12 miles from east to west and nine miles from north to south.

HISTORY OF OWNERSHIP

BP America Production Company White Lake (BPWL) properties have a long history of company ownership and management. (Note that Stanolind Oil and Gas Company (Stanolind) preceded Amoco Production Company (Amoco) which preceded BP America Production Company [BP]). Stanolind acquired the 70,965-acre property from Wright Morrow by Act of Sale on July 31, 1935. This sale included all of the property acquired by Yount-Lee Oil Company from P. L. Lawrence, et. ux., by Act of Sale dated March 7, 1931 and a portion of the property acquired by M. F. Yount from Elizabeth M. Watkins by Act of Sale dated Nov. 5, 1929. BP owned and managed the BPWL until July 8, 2002 when BP donated the property to the state of Louisiana. On July 8, 2002, a Cooperative Endeavor Agreement between the state and White Lake Preservation Inc., a 501(c) 3 corporation, for management of the property was executed. On Jan. 1, 2005, Act 613 of the 2004 Regular Legislative Session became effective. This act established:

1. Transfer of property management from White Lake Preservation Inc. to LDWF.
2. The White Lake Property Advisory Board, LDWF, and the Wildlife and Fisheries Commission powers and duties relative to the management of the White Lake Property.
3. A special account within the Conservation Fund for the White Lake Property. On Dec. 17, 2004, the state, BP and White Lake Preservation Inc. signed a Transition Agreement for the management of the property by White Lake Preservation Inc. until July 1, 2005, at which time LDWF took total control.

SURFACE LEASES

Agricultural

There are currently 18,425 acres of property leased to five agricultural tenants for the purpose of farming rice, raising cattle and crawfish farming. There is a rice base totaling 4,670.3 acres on this agricultural property. As a result of Hurricane Rita, our tenant farmers are still trying



to recover from the effects the salt-water storm surge had on the property and their financial situations. Only 1,500 acres of rice was planted for the 2008 crop year. In the fall of 2008 southwest Louisiana was hit by yet another hurricane. This storm, Hurricane Ike, flooded the Mermentau Fresh-Water Basin with salt-water. White Lake is located in the center of this basin, and as a result no rice was planted on the property in 2009 because of salt-water concerns. The primary source of water for our farmers to flood their crops comes from this basin, most notably the Gulf Intracoastal Waterway (GIWW). There was also no crawfish production on the property for the 2008-2009 crawfish season. This was a result of an inadequate fresh-water supply.

There are over 100 miles of levees, canals and roads on the White Lake agricultural lands that are maintained by our agricultural tenants. They also own and operate the pumping systems that are needed to manage water levels on this impounded agricultural land. All of the farmland on White Lake was at one time fresh-water marsh that was impounded in the late 1940s when agricultural activities first began on the property.

Hunting

There were a total of 12 waterfowl hunting leases on the agricultural properties. The lease acreage totals 15,185 acres. There is also one waterfowl-hunting lease on the marsh area located east of the Florence Canal. This lease contains 17,150 acres.

Trapping

There were a total of 534 Alligator Tags issued for the 2008 Alligator Trapping Season. The five trappers that are contracted to trap gators on the property caught all 534 gators. The average size of the gators trapped was 6.16 feet with an average live length value of \$32.05 per foot.

There was also an Alligator Egg Contract on the White Lake Property. In 2008 there were a total of 5,501 eggs collected. LDWF/White Lake was paid \$20.10 per egg for a total of \$110,570.10.

Fur trapping did not occur on White Lake during fiscal year 2008-2009 due to the continued low numbers of fur-bearers on the property. There has been no fur trapping on this property for over 30 years because of the low numbers of fur-bearers.

Other Surface Leases

There were two campsite leases, three oil and gas valve site leases and three oil and gas drill site leases on the property in fiscal year 2008-2009.

LOTTERY ACTIVITIES

Fishing Lottery

2008

75 fishing permits were issued at a cost of \$30 per permit. Permittees and their guest were allowed to fish the Florence Canal Area and specified well location canals

that flow into the Florence Canal. The area was open from sunrise to sunset from March 15 - July 31, 2008.

2009

100 fishing permits were issued at a cost of \$30 per permit. Permittees and their guest were allowed to fish the Florence Canal Area and specified well location canals that flow into the Florence Canal. The area was open from sunrise to sunset from March 14 - July 31, 2009.

According to reports from fishermen, there was an increase in fishing success as compared to the previous two-year period. Because of Hurricane Rita, which occurred in 2005, there was a substantial decrease in fishing success in this fresh water system during the 2006 and 2007 fishing seasons.

Waterfowl Lottery

Waterfowl Hunting		
	Total Hunts	Participants
Teal Lottery Hunts (4 teal hunts cancelled because of Hurricane Ike)	5	60
Marsh Lottery Hunts	8	96
Youth Hunts	2	16
Rice Field Lottery Hunts	23	207
Group Hunts	14	150

Waterfowl Hunting Results (2008-2009 season)		
	Marsh	Rice Field
Total Ducks Harvested	2,946	411
Average Kill/Hunter (ducks)	4.27	2.1
Total Geese Harvested	242	89
Average Kill/Hunter (geese)	0.35	0.45

NON-CONSUMPTIVE ACTIVITIES

LDWF established dates for the use of White Lake facilities, located within the White Lake in Vermilion Parish, for non-consumptive group activities including nature photography, bird watching, educational field trips and business retreats. There were a total of nine day trips and eight overnight trips made available for public booking during fiscal year 2008-2009. During this period there was one day trip scheduled and hosted by White Lake for a group of 15 nature photographers/bird watchers in April 2009.

Birding Trail

In the spring of 2009 work began on the White Lake Birding Trail that will hopefully be completed in 2010. Approximately 20 acres of property located in the center and on the northern end of White Lake was selected as an ideal location that would be easily accessible to the pub-

lic for bird watching activities. The trail has been laid out and dirt work started to facilitate public access. A parking area has been completed and the next steps are to build access bridges, a welcome center, a birding tower and several other observation/sitting areas.

EDUCATION, OUTREACH & RESEARCH

Marsh Maneuvers

During December 2008, White Lake was host to a group of 16 high-school 4-H students for three days. The three-day camp was designed to educate the students on the importance of coastal erosion, restoration, conservation and ecology. They were also able to go on a simulated waterfowl hunt and were taught waterfowl identification techniques. They participated in a sporting clay shoot where they were instructed on gun safety and the proper use of a shotgun.

Coastal Prairie

There are approximately 200 acres of Coastal Prairie on the White Lake property located south of the GIWW and west of the Florence Canal. For the past couple of years the LDWF Louisiana Natural Heritage Program has been doing research on the different plant species located on this prairie. Several trips are made annually to examine and collect plant species. Most of these plants will be deposited at the LSU Herbarium. To date, approximately 95 different species have been identified. Larry Allain of the Wetlands Center will be the lead author on a publication that will report on the flora and vegetation.

Coastal Marsh King Rail Project

In the spring of 2009 White Lake worked closely with LSU grad students on research they are conducting on the king rail. The students had 18 survey points on White Lake that they visited six times each from March 9 - June 16, 2009. In March they performed extensive water depth and salinity surveys at each location. In May they conducted three vegetation surveys within 50 m of each bird survey point. These surveys measured plant species composition (%) within 10 m of a point, % open water within 10 m, and vegetation structure measurements.

Preliminary results show king rails are primarily selecting shallow water depths (5-15 cm), while other birds, such as the least bittern and purple gallinule, are using deeper water depths.

This research will continue in the spring of 2010.

Gadwall Survey

In the fall of 2008 White Lake worked with an LSU grad student in his attempts to trap and place monitoring devices on gadwall. We selected a location and assisted with the baiting of an area in our refuge. The baiting was done with the intent of attracting enough gadwall into the baited area so a cannon net could be fired in an attempt to trap enough live birds for his study. Several attempts were made but the baiting proved to be unsuccessful and eventually the student moved to other locations off the White Lake property.

Whooping Crane Study

Historically, whooping cranes were residents of Louisiana. Prior to the 1800s, observers reported large numbers of whooping cranes in Louisiana wet prairies and coastal locations. Sadly whooping crane numbers declined. Changing land use practices and unregulated hunting contributed to these declines. By 1945, only two cranes remained at what is currently known as the White Lake Wetlands Conservation Area. In March 1950, the lone Louisiana crane referred to as "Mac" was captured at White Lake Wetlands Conservation Area and transported to Aransas National Wildlife Refuge on the central Texas coast. There are presently only 534 whooping cranes left in the world (381 in the wild and 153 in captivity). Whooping cranes were here in Louisiana historically and LDWF hopes to bring them back to Louisiana and hopefully help increase the world's population.

LDWF biologists are investigating the suitability of White Lake Wetlands Conservation Area for the re-introduction of whooping cranes. This study is a cooperative effort with Dr. Sammy King and LSU. The study is primarily evaluating forage availability on the property's 52,000 acres of fresh marsh. Through the use of throw traps, minnow traps and dip nets we are sampling all aquatic macro-invertebrates, fish and crustaceans available for foraging whooping cranes. We are also sampling vegetation height, density and composition in order to evaluate nesting potential of the property. Continuous water level recorders have been installed at all sampling sites in order to evaluate the area suitable for foraging throughout the crane's annual cycle. Although, the study will focus on White Lake it will also evaluate other wetlands in the area including but not limited to Rockefeller Refuge.

MARSH MANAGEMENT

The White Lake property consists of approximately 52,000 acres of fresh water marsh and 19,000 of agricultural land. There are four separate management units that comprise the marsh. Within these marsh areas there are over 100 miles of trenasses, five water control structures, three pumping stations and over 30 miles of levees all of which are operated, managed and maintained by White Lake personnel. Objectives of maintenance and manipulation of the refuge's system of levees and water control structures vary somewhat by management unit, but generally goals are to maintain marsh health, provide conditions favorable for production of waterfowl food plants and incorporate multi-species management when possible.

A portion of the levee system on Management Unit C (4,805 acres of impounded marsh) was breached and severely eroded as a result of the Hurricane Ike storm surge. The breach occurred on a well location canal ring levee in the West White Lake Field. Approximately 1,000 feet of levee was damaged and needed repair. Within a few days after discovering the levee breach LDWF had equipment on site to repair the damages. The repair job took about three days and was successful in preventing the refuge area from completely flooding with salt-water.

As part of the overall management of the White Lake properties in the fall of 2008, a comprehensive set of Rule and Regulations was drafted and presented to the Wildlife and Fisheries Commission for approval. The White Lake Rules and Regulations were approved by the Commission and became effective in the spring of 2009.

MINERAL MANAGEMENT

There are three producing oil and gas fields on the White Lake property that were once operated by Amoco Production Company. Amoco sold the subsurface rights in these fields and all the facilities associated with these fields in the latter part of the 1990s to Hilcorp Energy Company. Hilcorp has since sold these fields, and there are now three separate owner/operators. The West White Lake Field (approximately 1,500 acres) is now owned and operated by Energy Quest. The Florence Field (approximately 1,920 acres) is now owned and operated by Dune Energy Company. The South Kaplan Field (approximately 800 acres) is now owned and operated by Texas Petroleum Investments. The state of Louisiana owns the surface of the property that comprises these three production areas. LDWF monitors surface activities and helps enforce the conservation terms of the agreements that were executed by and between Amoco Production Company, BP and the three owner/operators mentioned. Each operator has responsibilities for maintenance of roads, levees, canals, bridges, etc. In the spring of 2009 at the request of LDWF, Dune Energy Company rebuilt approximately 1.5 miles of protection levee surrounding one of the well locations.

BP retained the mineral rights to the remaining White Lake acreage that is not covered under the mineral properties sold to the above-mentioned operators. BP granted a mineral lease in 2008 to Sandlewood Exploration on a portion of this acreage. LDWF/White Lake negotiated and issued a surface lease to Sandlewood for an exploratory well drilled in September 2008. This well ended up being a dry hole and the surface property was restored to its original condition.

MAINTENANCE OF FACILITIES & EQUIPMENT

There are approximately 20 acres of property associated with the White Lake Lodge Facility, Sporting Clay Course, Skeet Range, Birding Trail and Florence Canal Landing area. This acreage is maintained and landscaped throughout the year by White Lake staff personnel.

White Lake staff repainted the interior of the main lodge facility during the spring of 2009. Other routine maintenance was performed on the remaining White Lake facilities.

We replaced the trap machine that was located on the skeet range and also repainted all buildings on the skeet range.

Routine maintenance was performed on our fleet of 25+ boats. Our four mud boats were each dry-docked and repainted and other routine annual maintenance was done. We replaced one mud boat engine.

The roof on the house at the Florence Canal Landing was replaced. This roof was damaged during Hurricane Rita.

After months of negotiations with adjoining landowners, we were successful in developing a joint agreement, which addressed the rebuilding of the Florence Canal Bridge. The bridge was rebuilt in the spring of 2009 for a total restoration cost of approximately \$45,000. This expense was split equally between LDWF and the other two adjoining landowners that utilize the bridge.

FINANCIAL REPORT

Revenue	
Group Hunt Fees	\$349,933
Agricultural Leases	\$229,145
Hunting Leases	\$92,500
Alligator Egg Collection (refund for previous year)	-\$10,030
Lottery Hunt Fees	\$41,710
Alligator Trapping Income	\$42,262
Interest Income	\$35,458
Surface Leases	\$3,300
Surplus Property	\$1,320
Fishing Lottery	\$4,025
Expenditures	
Salaries	\$215,579
Wages	\$68,853
Related Benefits	\$83,432
Travel	\$457
Operating Services	\$132,904
Supplies	\$101,270
Professional Services	\$170
Other Charges	\$15,955
Acquisitions	\$19,614
Major Repairs	\$6,300
Interagency Transfers (insurance)	\$56,761
Totals	
Beginning Fund Balance	\$1,932,599
Total Revenue	\$789,623
Total Expenditures	-\$701,295
Ending Fund Balance 2008-2009	\$2,020,927

FURBEARER MANAGEMENT

MONITORING FUR HARVEST

The 2008-2009 furbearer harvest was monitored by compiling distribution and total harvest data. Each year, fur buyers and dealers are required to submit reports provid-

ing information on pelts purchased by species and parish of harvest. Annual audits of all fur dealers provide a record of total pelts by species shipped from Louisiana. River otter and bobcat possession tags provide data on timing and location of all bobcat and otter harvested in the state. These tags are necessary to insure that Louisiana otter and bobcat are tagged with federal export tags (a federal requirement for out-of-country shipment).

Records indicate a total of 1,704 trapping licenses were sold during the 2008-2009 trapping season. Of these, 1,651 were adult residential licenses, 21 were adult non-residential trapping licenses and 32 were youth residential licenses. These figures show a slight increase in trapping licenses sold when compared to the previous season (1,616).

A total of 343,168 animals were harvested (all species) which was an increase of 15,599 from the previous season's total of 327,569. The total value of the 2008-2009 fur harvest to the state's trappers was estimated at \$1,721,695.92. This total value was down \$32,904.37 from the previous season.

The nutria harvest (334,038) increased by 25,826 from the previous season's total of 308,212. The average nutria pelt price paid to trappers during this past season was \$1.27. An additional \$5 was paid for all nutria taken during the Coastwide Nutria Control Program by registered participants.

FUR ADVISORY COUNCIL (FAC)

During fiscal year 2008-2009, the Fur and Alligator Advisory Council divided into two separate councils, the Fur Advisory Council (FAC) and the Alligator Advisory Council. FAC continued to work towards its two major goals. The first goal of educating the public concerning the role of wildlife utilization in conservation is directly associated with the second goal of market enhancement for fur products.

FAC has come to the increased realization that without education of the public to counter misleading animal rights propaganda, enhancement of markets cannot be accomplished in the long-term. The educational module paired with the educational CDs continued to be a great success. Requests for sample skins and programs have been tremendous. Staff and volunteers presented at numerous schools and libraries during fiscal year 2008-2009. FAC continued with a strong presence at large public events such as the Louisiana State Fair. Hundreds of school children visited the FAC booth at the State Fair daily for its three-week duration. The Web site carried the educational story to a much broader audience of teachers and students. The success of our education program will likely determine the future of markets.

FAC has struggled to find new strong and stable markets for Louisiana fur. The international fur market continues to be very dynamic and many internal and external factors affecting buying trends and markets are still present. Mainland China still holds the brightest future for new

and expanded markets and bought more Louisiana products this year. China is catching up with its knowledge base, and dealers are eager to learn about Louisiana furs. FAC attended fur shows in mainland China and Hong Kong during fiscal year 2008-2009. The Beijing Fur Show is bigger every year and buyers are very interested in Louisiana products. Louisiana fur dealers were able to sell furs based on contacts made at this show. FAC has followed a marketing plan of working in several countries that are gateways to China.

ALLIGATOR ADVISORY COUNCIL (AAC)

The Alligator Advisory Council (AAC) joined with FAC in all education endeavors. They shared a booth at the State Fair and in other venues. School and library presentations addressed the educational needs of both councils. The Web site and CDs provide habitat management education related to the alligator industry as well.

AAC also concentrated on solving problems associated with alligators and crocodilians in general through Convention on International Trade (CITES) and USFWS programs and regulations. CITES Animals Committee met in Geneva, Switzerland April 18-22. This committee monitored a preliminary review of Mexico's Morelets crocodile down-listing proposal to Appendix II. There has been a considerable increase in *Caiman fuscus* from Colombia. The situation in Colombia needs to be urgently addressed by the Crocodile Specialist Group (CSG) and CITES and was a topic of discussion at the CSG Steering Committee meeting June 2 in Santa Cruz, Bolivia. Discussions regarding further standardization and expedition of trade in legal crocodilian products dominate these meetings. Progress continues to be steady.

RESEARCH

The Fur and Marsh Management Section continued research through grants and contracts during fiscal year 2008-2009. This section administered several continuing contracts concerning post-hurricane impacts to coastal marshes, vegetative damage caused by nutria and nutria control techniques.

LDWF conducted a fifth year of the Bobcat, Fox and Coyote Hunter Survey by taking a random sample (6 percent) of Louisiana big game license hunters from the 2007-2008 season. This information is used to estimate trends over time as to the number of bobcats within the state of Louisiana and the distribution of this species. This harvest data is needed to best manage the season.

LDWF personnel continued work with the U.S. Department of Agriculture (USDA) Wildlife Services with funding from USFWS on developing and field testing lures and baits to increase trapping efficiency for the control of nutria. The field work continued during the 2008-2009 trapping season. The lure developed demonstrated some positive results in increasing the catch rate.

LDWF worked with The Association of Fish & Wildlife Agencies on the development of "Best Management Practices for Trapping Mink and Striped Skunk in the United States."

This section also monitors marsh conditions on the coastal WMAs and refuges. Marsh conditions are surveyed both on the ground and through aerial surveys. These surveys are indicators of general marsh health, abundance of aquatic vegetation for waterfowl, abundance of furbearers and many other important components of these ecosystems.

Fur and Marsh Management personnel also collected data on alligator nest densities and wading birds and shorebirds that nest and feed on these areas, and participated in intensive coast wide waterfowl surveys.

COASTWIDE NUTRIA CONTROL PROGRAM (CNCP)

CNCP is funded by the Coastal Wetlands Planning, Protection and Restoration Act (CWPPRA). The objective is to decrease the damage to coastal vegetation that is caused by nutria by increasing the incentive for harvest. During the 2008-2009 season, a total of 334,038 nutria tails, worth \$1,670,190 in incentive payments, were collected from 262 participants. Ninety two participants (35 percent) turned in less than 200 tails, 52 participants (20 percent) turned in 200-499 tails, 25 participants (10 percent) turned in 500-799 tails and 93 participants (35 percent) turned in 800 or more tails.

Total number of nutria harvested by method of take in 2008-2009

There were 19 parishes represented in the program with harvests ranging from 231 to 74,587 nutria per parish. Terrebonne Parish reported the highest number of tails with 74,587 followed by Lafourche and St. Martin parishes with 48,252 and 44,972, respectively.

February was the most active month for harvesting nutria (103,081 tails) while November (13,394 tails) was the least active month (see CNCP 2008 Report, CWPPRA Project LA-03b).

Vegetative Damage Caused By Nutria

As a monitoring requirement of CNCP, a coast-wide aerial survey was conducted in the spring of 2009 covering the coastal parishes of Louisiana. The total number of sites visited in 2009 was 27, of which one was a new site while 26 were previously classified as damaged in the 2008 survey. The one new site was identified as nutria damaged.

There were no sites completely converted to open water, and four nutria sites as well as two storm related sites that recovered in 2008.

Of the 20 damage sites visited in 2009, 18 were related to nutria damage, one was a combination of nutria/hog damage, and one was related to muskrat damage.

The 2009 survey identified 19 sites (nutria and nutria/hog damage) with a total of 20,333 acres impacted by nutria feeding activity along transects. This is approximately a 12 percent decrease from the 23,141 damaged acres reported in 2008.

CNCP continues to be a successful means of controlling the nutria population with an average of nearly 300,000 animals harvested annually. Consequently, the number of nutria impacted acres in Louisiana's coastal marsh has also decreased significantly.

MARSH MANAGEMENT

Division staff continued work on several CWPPRA projects and other restoration projects during this period. Staff worked with the sponsoring agencies on annual inspections and continued monitoring of several constructed CWPPRA Projects associated with the Coastal Refuges and WMAs.

Division staff worked with USACE on the Cypress Lumber Canal Project which is associated with the Davis Pond CWPPRA project. This project is in the construction phase and will add eight additional cuts to the Davis Pond Pool Area to facilitate drainage into Lake Cataouatche. This project was scheduled for completion in the late fall of 2009.

Fur and Marsh Management staff worked with LDNR on the Lake Sand CWPPRA project repairs. These repairs are a result of damages caused by Hurricane Rita to the project area located on Marsh Island. This project is in the construction phase which began in November 2008 and was completed in February 2009.

The Fur and Marsh Management section is responsible for the data collection, management and maintenance of approximately 20 YSI continuous recorders in place across the south central and southwest coastal management and refuge areas. The model currently being used is the 600 LS sonde which measures and records water levels, temperature, specific conductance and salinity on an hourly basis. YSI units are currently located at:

- **State Wildlife Refuge (2)** - The YSI units located on State Wildlife Refuge are at Lake Tom and the Hell Hole.
- **Marsh Island (7)** - Marsh Island has seven interior marsh YSI stations locations at East Oyster Branch, Lake Long and Lucien Bayou, and in the Northeast and Southeast units, as well as the Belly Dam canal and Little Charles Bayou. Historically a unit has been in place on the east side of the island at Lake Sand, but has not been replaced since it was lost during Hurricane Rita.
- **Wax Lake (1)** - The YSI location on Wax Lake is near East Pass.
- **Atchafalaya Delta (1)** - The Atchafalaya Delta YSI is located on Log Island Pass.
- **Point Aux Chenes WMA (5)** - The Point-aux-Chenes impoundment is part of the hydrological restoration project monitoring. The four units in the impoundment are evenly distributed throughout the 5,000-acre unit. One YSI unit is also located inside the Montegut impoundment.
- **Salvador WMA (3)** - The YSI units at Salvador WMA are located in the north end, the south west area near the WMA camp and in the Gulf Canal near Lake Cataouatche.

LDWF was awarded a grant from NAWCA to construct a Water Management Unit on the Pointe-aux-Chenes WMA. The 5,000-acre unit is located in the center of the WMA and will be managed to enhance a deteriorated salt marsh that is now 60 percent open water (in 1956 this same area was 99 percent marsh). The priority of the water management regime is to re-establish emergent vegetation in shallow areas, increase emergent species diversity, reduce turbidity and increase submerged aquatics. This is accomplished through successful late winter-early spring draw-downs to expose shallow water bottom and edge to stimulate vegetative growth. During maintenance years the objective will be to maintain water levels at marsh level and maintain salinities at or below 8 ppt. to enhance submerged aquatic vegetation production and species diversity of emergent vegetation. This project was completed in the spring of 2007.

There are three recorders inside the Point-aux-Chenes Unit and one outside, as well as the existing station in the Montegut impoundment. Along with operating the water control structures, LDWF is responsible for pre/post biological and hydrological monitoring and reporting of the Pointe-aux-Chenes impoundment. These monitoring and reporting activities include:

- Checking water levels and salinities at monitoring stations.
- Recording structure activities.
- Collecting 6-foot otter trawl fisheries samples from April-September.
- Annually conducting ocular vegetation composition data.
- Conducting surveys of emergent vegetation colonization in permanent shallow water bottom sampling sites.
- Conducting annual aerial waterfowl surveys.
- Conducting hunter participation/harvest surveys.

A monitoring report is submitted annually documenting the management of the unit and all survey results.

LDWF is responsible for managing this unit for wintering waterfowl, shorebirds, wading birds and other coastal estuarine dependent species.

Staff worked with LDNR on the Coastwide Reference and Monitoring System in reviewing and issuing permits for the construction of monitoring sites on the coastal refuges and WMAs. Permits were also issued for access to these sites for data collection and servicing of the data collection units.

Staff also assisted other division personnel with planning and monitoring of oil and gas activity on the coastal refuges and WMAs.

Staff worked on the water management regime on the Marsh Island Refuge for the following units; the Northeast Unit, Southeast Unit and Big Impoundment which is aimed towards reducing salinities and tidal scour, maximizing emergent vegetation in shallow areas, increase emergent species diversity, reducing turbidity

and increasing submerged aquatic vegetation for migratory birds.

COASTAL STEWARDSHIP OPERATIONS

The Coastal Operations section includes all WMAs and refuges within LDWF's Coastal and Non-game Resources Division, with the exception of Rockefeller Refuge and White Lake Conservation Area. These areas include Atchafalaya Delta, Biloxi, Lake Boeuf, Pass-a-Loutre, Pointe-aux-Chenes, Salvador/Timken and Wisner WMAs, and Marsh Island, St. Tammany, State Wildlife and Isles Dernieres Barrier Islands refuges. The Coastal Operations 2006-2007 and 2007-2008 Annual Report included information on the continued involvement of personnel with hurricane recovery (2005), primarily with FEMA purchasing, rebuilding plans and activities. This fiscal year was no different. Program staff continued planning, purchasing and rebuilding from the 2005 storm season.

In September 2008 the coast was again impacted by two large hurricanes. Hurricanes Gustav and Ike impacted all coastal WMAs and refuges causing tidal flooding and wind damage that significantly damaged buildings, equipment and management infrastructure. Program staff assisted with search and rescue activities and assisted local parish officials with drainage and damage documentation. Staffs are now working with FEMA officials to develop project worksheets and repair damaged equipment, facilities and management infrastructure.

The 2008 teal season harvest-success on the coastal WMAs was 1.5 teal harvested for every hunter effort. This harvest was slightly above the 2007 season of 1.4 ducks per hunter effort. In addition, hunter interviews during the 2008-2009 regular waterfowl season indicated that the average harvest-success on the coastal WMAs was 2.3 ducks per hunter, which was slightly lower than last season (2.5 ducks per hunter effort). Also harvested during select interview dates were 4,645 coots, 1,420 gallinule, 30 mergansers, five rail, 65 snow geese, five Ross' geese and 15 white-fronted geese.

Coastal Operations staff continued with mottled duck banding during fiscal year 2008-2009 as part of LDWF's survival study being conducted by Rockefeller Refuge staff. Banding was conducted at Pass-a-Loutre, Pointe-aux-Chenes, Salvador and Atchafalaya Delta WMAs, and Marsh Island Refuge. The total number of mottled ducks banded during fiscal year 2008-2009 was 1,045. In addition, 14 wood ducks and six black-bellied whistling ducks were banded by Coastal Operations staff.

Revised harvest agreements between LDWF and alligator hunters/fur trappers of the coastal WMAs and St. Tammany Refuge were created for the 2008-2009 season. Coastal WMA/refuge trappers were successful in harvesting 234 alligators from Atchafalaya Delta WMA, 385 from Pass-a-Loutre WMA, 280 from Pointe-aux-Chenes WMA, 512 from Salvador/Timken WMAs, and 13 from St. Tammany Refuge in 2008.

One Coastal Operations staff biologist was involved with the Third Annual Eagle Expo in Morgan City. This festival involves guided boat tours as well as professional presentations on the bald eagle and wildlife of the Atchafalaya Basin and adjacent swamps.

Coastal Operations staff biologists were once again involved in the Louisiana Envirothon. The Louisiana Envirothon works in partnership with resource management professionals and the general public to promote and strengthen the goal of environmental education in the state. The Louisiana Envirothon is a multidisciplinary, environmental problem-solving competition for students in grades 6-12. Teams of five young people from the same school or associated with an organized group (i.e. FFA, 4-H, home-school groups, BSA pack) train and compete in five natural resource areas: soils; aquatic resources; forestry; wildlife; and a current environmental issue. There is also an oral presentation component of the competition, in which teams present a solution to an environmental problem related to the current issue. Throughout the competition, students learn hands-on in a real-life context the complexities of solving environmental problems while working as a team and having fun.

ATCHAFALAYA DELTA (AD) WMA

ADWMA is a 137,000 acre WMA located in southern St. Mary Parish. The WMA owned by the state has been managed by LDWF since 1977 under a lease agreement with the Louisiana State Lands Office.

In fiscal year 2008-2009, area staff utilized FEMA funding to build a new 22-foot by 12-foot storage building behind the living quarters. They also built a 20-foot by 30-foot tractor shed on the Big Island. Major acquisitions this fiscal year were a 101 hp, four-wheel drive John Deere tractor for maintaining food plots and fire lanes on the Big Island, and a new 50 kw Katolight diesel generator that was installed at the headquarters. Satellite internet and television service were also established.

Hurricanes Gustav and Ike caused minor damage to buildings and equipment, however damage to habitat was significant. High winds toppled and killed many trees on the WMA. A high salinity storm surge produced salt burn on much of the vegetation, but was most evident on American lotus. Scouring was also evident across the delta.

Coastal Operations staff continued to participate in the implementation and monitoring of USACE Dredge Material Management Program to beneficially use dredge material to create wetlands within the Atchafalaya Bay. During fiscal year 2008-2009, USACE dredged the bay and bar channels of the Atchafalaya River. Dredged materials from the lower reach of the river (a.k.a., Bar Channel) were used beneficially to create 20 to 30 acres of tidal mudflats south of the West Bird Island. The USACE also dredged the bay channel and used the materials to create Mathies Island, nearly 3,000 feet in length. This island was named after Linda Mathies a retired senior environmental specialist with USACE.

Coastal Operation staff continues to coordinate with federal agencies such as the USACE, Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA) and UFWS to design environmentally beneficial projects that maintain deep draft navigation through the WMA. Staff has mapped future dredge material disposal locations and developed strategies for dredge disposal of sediments for Horseshoe Bend and submitted those plans to USACE.

Coastal Operations staff continued to provide logistical and technical support for multiple research projects that evaluated various wildlife and fishery aspects of ADWMA. Area staff provided logistical accommodations for Arkansas Tech University to get a first hand look at Louisiana's abundant natural resources. LSU's Dr. Andy Nyman coordinated and attended the trip. Area staff also assisted with the collection of river shrimp (*Macrobrachium ohione*) and plankton samples for Dr. Ray Bauer's (UL Lafayette biology professor) research to assess the seasonal variation in the population structure and migration of this species of shrimp, which inhabits the Atchafalaya River. Finally, Gary Peterson of the LSU Coastal Fisheries Institute continued his sport fish research at the Main and Wax Lake outlet deltas. LDWF staff assisted this effort by providing lodging and transportation when required.

In addition to supporting research, the Coastal Operations Section also assisted NOAA by providing airboat support to ground truth the accuracy of aerial photography vegetation surveys, which are being conducted to monitor vegetation changes within the vicinity of the Big Island Mining and Atchafalaya Sediment Delivery CWPPRA projects. These surveys are performed as part of the long term monitoring program for these projects. In addition, Coastal staff participated in an operations and maintenance inspection meeting with NOAA/National Marine Fisheries Service and LDNR to discuss maintenance dredging for the Big Island Mining and Atchafalaya Sediment Delivery CWPPRA projects. LDNR has some funds (under \$800,000) allocated for dredging/beneficial use. However, additional funds will be required from CWPPRA to return the projects to desired specifications.

Coastal staff assisted the LDWF Mineral and Permit Section with multiple assessments of proposed well sites on the WMA. The assessments were conducted to identify potential impacts of the oil and/or gas exploration to wetlands and hydrology in the vicinity of the sites.

Based on self-clearing permits and mandatory deer inspection data, 2,735 archery hunter efforts were expended in the harvest of 164 deer (105 bucks and 59 does), yielding a kill per effort of one deer per 16.7 efforts. This is an increase in harvest from the 2007-2008 archery season. In the 2007-2008 season, 123 deer were harvested.

Two youth lottery deer hunts were held at Big Island on the Main Delta during October 2008. A total of 29 youth hunters (57 efforts) participated in the lottery deer hunts.

Over the four days of hunting, a total of eight deer (six does and two bucks) were harvested from Big Island. This equates to one deer harvested for every 7.1 efforts. In anticipation of the hunt, area staff widened and bush-hogged rights-of-way and posted the boundaries of the designated areas. Logistical accommodations and deer stands were not provided for the 2008 youth hunts.

WMA staff planted three food plots in the Restricted Area to provide a supplemental food source for deer during the fall/winter months. The ADWMA crew also maintained the rights-of-way and added additional boundary posts along the perimeter of the Restricted Area. Area staff reposted the boundary of the WMA during fiscal year 2008-2009.

The 2008 teal season harvest success at ADWMA was 1.5 birds per hunter effort. This is slightly lower than the 2007 season of 1.6 birds per hunter effort. In addition, waterfowl hunter/harvest surveys revealed that harvest success for the regular waterfowl season was 2.3 birds per effort. This is a 5 percent decrease from the 2007-2008 season. The top four species harvested in decreasing order are green-wing teal, gadwall, mallard and blue-wing teal. In addition, 360 coots, 35 snow geese and 10 white-fronted geese were harvested during hunter interview dates.

WMA and New Iberia staff continued with mottled duck banding during fiscal year 2008-2009 as part of LDWF's survival study being conducted by Rockefeller Refuge staff. Staff banded 197 ducks. In addition, 17 mottled duck hens were implanted with radio transmitters and released. This research project is being conducted by LSU's School of Renewable Natural Resources to monitor survival, habitat use and movement of female mottled ducks in southwest Louisiana and southeast Texas.

Biological staff collected avian flu samples from 50 mottled ducks and 50 blue-wing teal. These samples were collected for the 2008-2009 LDWF/USDA Avian Influenza Sampling/Monitoring Program.

Coastal Operations staff conducted plover surveys as part of the 2009 statewide coastal winter plover surveys. Multiple semi-palmated and 13 snowy plovers were observed along with ruddy turnstones, sanderlings, dunlin, western sandpipers, etc.

During the 2008 alligator season, 234 alligators (averaging 7.2 feet) were harvested from ADWMA. LDWF received \$23,997.88 for its 40 percent share of revenue generated from the harvest. During the lottery season 15 alligators were harvested (averaging 6.6 feet). LDWF received \$1,101.09 for its 40 percent share of the revenue from the harvest.

According to user surveys, approximately 33,620 recreational users visited the WMA during fiscal year 2008-2009.

BILOXI WILDLIFE MANAGEMENT AREA

Biloxi WMA is a 39,583-acre WMA located in eastern St. Bernard Parish. The property is owned by the Biloxi Marshland Company and has been leased to LDWF since 1957.

In fiscal year 2008-2009, hurricanes Gustav and Ike produced significant tidal surges of high salinity waters that scoured much of the submerged aquatics on the WMA.

Coastal Operations staff posted the boundary of the WMA in March 2009. The project consumed 618 posts and signs. During the project, two boundary disputes were documented with the Lake Eugenie Marsh Company.

The 2008-2009 waterfowl season was reported to be fair to good. Success was estimated at 2.5 ducks per hunter with most hunters harvesting green-wing teal, gadwall and northern shovelers.

ISLE DERNIERES BARRIER ISLAND REFUGE

Isle Dernieres Barrier Island Refuge is a 630-acre refuge that is a series of five barrier islands in extreme southern Terrebonne Parish. The island chain consists of Wine, East, Trinity, Whiskey and Raccoon islands. LDWF has managed these properties since 1992.

Coastal Operations staff assisted with the second year of the Raccoon Island/Whiskey Island brown pelican translocation project. On Raccoon Island, 105 juvenile pelicans were captured, banded and moved to Whiskey Island. Coastal staff also assisted with the banding of pelicans on the islands, which includes 200 birds on Wine and 183 pelicans on Raccoon Island. During the beginning of the third year of the project (June 2009) an additional 105 pelicans were banded and relocated to Whiskey Island. In addition, 194 birds were banded. In summary, 788 birds were banded of which 211 were relocated to Whiskey Island. These projects are part of Scott Walter's (UL- Lafayette) research on the effects of hurricanes and sea level rise on ecology and restoration of the brown pelican.

Dr. Frank Rowher (LSU) and Dr. Aaron Pierce (Nicholls State) continued gathering data for research concerning the bird usage of the New Cut Dune/Marsh Restoration project (LSU) and the use of barrier island as nesting habitat for Louisiana birds of concern. LDWF staff purchased supplies for the construction of a shed and provided an ATV for the project.

Weeks Marine initiated the construction of the Whiskey Island Back Barrier Marsh Creation CWPPRA project (TE-50). The project is to create dune habitat and approximately 300 acres of back barrier marsh. Vegetative plantings and sediment fencing are also part of the project. The finalization of the project will not be complete until next fiscal year.

Hurricanes Gustav and Ike significantly impacted the refuge. The area sustained extensive shoreline erosion and over-wash on all islands. In addition, bay-side erosion

occurred in some areas and a majority of the spits were washed away during the storms. Most of the dunes were eroded away on Trinity/East Island. Wine Island is approximately half the size it was before the storms. Raccoon fared the best due to protection from the segmented rock breakwaters.

Coastal Operations staff posted the boundary of Trinity/East and Raccoon islands. This project consumed 130 signs. The restricted areas were also posted.

Sandbags were filled and stacked on the east side of Raccoon Island near the east/west groin in an attempt to fill a scoured area and minimize the chance of breach between the groin and the island.

During the winter plover surveys conducted on the islands, biological staff observed four piping plovers and one snowy plover. Additional species observed include ruddy turnstones, sanderlings, western sandpipers and American oystercatchers.

Several meetings have been attended concerning the deepening of the Houma Navigation Canal. LDWF staff is pushing for the beneficial use of the sediments on Wine and East/Trinity Island. Comments to Consistency Determinations have been addressed in similar fashion.

LAKE BOEUF WILDLIFE MANAGEMENT AREA

Lake Boeuf WMA is a 789-acre WMA located in Lafourche Parish just south of Lake Boeuf. The WMA is a cypress-tupelo swamp and was purchased in 1998 from the Conservation Fund.

Impacts from hurricanes Gustav and Ike were minimal. The area experienced prolonged flooding and several tree tops were broken.

Locap Pipeline marked and maintained their pipeline on the WMA. They were also issued an airboat permit for ROW maintenance.

Chris Reid collected several vegetation samples on the WMA and recorded them in local and national herbariums.

Self-clearing permits revealed that 31 attempts were made to harvest deer and two for hogs. None of the attempts were successful.

No alligators were harvested on the WMA this year.

MARSH ISLAND REFUGE

Marsh Island Refuge is a 76,664-acre refuge located in southern Iberia Parish. The refuge was donated to the state in 1920 making it one of the oldest refuges in the state. The refuge was donated to LDWF by the Russell Sage Foundation which was established by Margaret Olivia Sage in honor of her late husband. The donation came with a strict set of management stipulations which are audited annually by the Russell Sage Foundation Committee.

During fiscal year 2008-2009 Coastal Operations staff continued to provide technical and logistical assistance for the East Marsh Island Marsh Creation CWPPRA project. Several interagency meetings were held to discuss/develop the project and Coastal staff assisted with finalizing some of the project details such as desired marsh elevation. The project is now 95 percent complete and should go to bid and construction in fiscal year 2009-2010.

Several repairs were made to the Northeast, Southeast, Big Impoundment and Big Dam units. Approximately 12 breeches and low spots were repaired with on-site borrow material. Water control structures and levees were repaired on the Big Impoundment. Pilings were also driven around the refuge for navigation aids and regulation signs.

Hurricane Gustav did minor damage to the refuge, but Hurricane Ike devastated it. Several buildings were substantially damaged including the boat shed, airboat shed and headquarters. Storm surges brought in 6 to 7 feet of flooding and salinities in excess of 25 ppt. Habitat impacts observed were severe erosion of the Gulf-side shoreline, scouring of submerged vegetation, and trees damaged and destroyed. Management features such as levees, plugs, walkways and water control structures on the refuge were compromised as well. FEMA and ORM officials surveyed the damages, and claims were filed. Area staff began emergency repairs including repairing the water well, entrances and sewage treatment, as well as electrical and air-conditioning repairs/replacement.

Major acquisitions for fiscal year 2008-2009 include a new 65 kw Katolite diesel generator and a new 36-foot Pilothouse deck boat. The deck boat is powered by two 350 hp outboard engines. Satellite internet and television were also established at the refuge.

Logistical and informative support was given to several private and governmental agencies including:

- Vanessa Tobias of LSU who collected samples of *Spartina patens* to index nutrient, flooding and salinity stress on wire grass.
- Bruce Davis of LSU who implanted 19 radio transmitters in mottled duck hens for research on survivability, habitat utilization and spatial use in southwest Louisiana and southeast Texas mottled ducks.
- Lawrence Rozas with NOAA to review sites for potential fisheries research using DIDSON (dual frequency identification sonar) acoustic camera equipment.

Area staff worked with the minerals management section on several oil and gas projects on the refuge. One particular project was constructed by Renaissance Petroleum. This project used a hydraulic dredge to create a well access channel in West Cote Blanche Bay. The project used 20,000 cubic yards of dredge material to create marsh adjacent to the dredge location. They also repaired a breach in a rock plug, and created a containment dike that will be used during the East Marsh Island Marsh

Creation CWPPRA project. The project created 18 acres of marsh and enhanced 103 additional acres.

Biological staff met with contractors for Iberia Parish to develop a project to create terraces behind the rock containment along the bay shores of Lake Tom and Lake Sand. The proposed project is to use CIAP funds.

Approximately 7,180 acres of marsh were burned in the Big Impoundment to increase the production of preferred food plants for over-wintering waterfowl. This burn was conducted according to a "smoke management plan" that was drafted in fiscal year 2008-2009 to comply with LDAF's requirement for certified burners program.

Area staff banded 386 mottled ducks on the refuge during the 2008 banding season.

During the winter plover surveys no plovers were observed on the refuge; however, sanderlings, willets, lesser yellowlegs, short-billed dowitchers and killdeer were.

The two bird islands in Bayou Platte were prepared for the nesting season. The islands were burned and herbicide applied in order to expose the underlying shell base that is preferred by several shorebird nesting species. During the nesting season, approximately 550 to 750 nesting laughing gulls, terns and black skimmers nested on the big island.

Eighteen nuisance alligators were removed from the refuge this month. They averaged 7.5 feet in length and were taken from the Belly, Gordy and Big dams which are frequented by fishermen.

Coastal Operations staff continued with the maintenance of the headquarters facility and weirs on the refuge. Staff performed routine maintenance of the headquarters (cut grass, serviced equipment, performed minor repairs to buildings and equipment, painted the interior of the camp, etc.). Coastal staff also added boundary signs, replaced regulation signs at the weirs, fixed and replaced loose boards on the walkways of the Gordy Dam and Belly Dam and cleaned up trash and sprayed herbicide at the weirs on a routine basis.

Area staff continued to assist with search and rescue at (and in the vicinity of) Marsh Island Refuge. The rescues were typically to assist with stranded boats and engine malfunctions.

According to user surveys, approximately 24,495 recreational users visited Marsh Island Refuge during fiscal year 2008-2009.

Total rainfall for the year was 20.05 inches plus rainfall during hurricanes Gustav and Ike. Rainfall totals for the month of September are not available due to damages to the rain gauge during the hurricanes.

PASS-A-LOUTRE WMA

Pass-a-Loutre WMA is 115,000 acres, and was established in 1921 by an act of state legislature. It was designated as a "state shooting ground" which was the precursor for today's WMAs. It is Louisiana's oldest WMA and is still the first and most successful state sponsored hunting club in the country. Pass-a-Loutre WMA was Governor John Parker's response to public outcry that the best hunting areas were all being leased by wealthy hunters and that the common man did not have quality hunting opportunities.

In fiscal year 2008-2009, reconstruction of the headquarters facilities progressed steadily. All buildings are substantially complete and a majority of the construction has been ongoing. The layout of the buildings are nearly exactly what they were in the 1971 construction blueprints except for upgrades mandatory for current codes and standards. All buildings have been elevated above the FEMA floodplain guidelines. Area staff stayed on a new barge houseboat during the entire fiscal year.

Major acquisitions included two new outboard engines on the barge, new radar for the Canvasback, a new range, a new large refrigerator and general repairs and maintenance to the Canvasback engines and transmissions.

Hurricane impacts to the WMA were minimal. Buildings and equipment experienced very little damage, however habitat impacts were more severe. The storm surges pushed in high salinity waters that burnt large stands of freshwater vegetation including large stands of delta duck potatoes. Most of the submerged aquatics were scoured out and large sections of Roseau cane were pushed down. Many of the standing dead willow trees from Hurricane Katrina were pushed down. The reservoir experienced two breeches.

Brigadier General Michael Walsh, commander of the Mississippi Valley Division of the USACE, visited the WMA with Ducks Unlimited and the Governor's office for an introduction to the Mississippi River Delta and to learn how local management strategies can compliment the needs of the navigation industry.

Biological staff has been working with a multi agency task force, including private corporations, coordinated by LDNR to compile a "white paper" to encourage USACE to change dredge practices on the lower Mississippi River. The group is seeking to use more dredged material beneficially and to stop the practice of dredge disposal into Pass-a-Loutre. The "white paper" has been drafted and will be submitted to USACE next fiscal year.

Biological staff worked with the USACE to develop a plan to dredge South Pass and use the dredge material beneficially. The plan will create approximately 400 acres of marsh. USACE plans to dredge South Pass next fiscal year.

Dr. Andy Nyman (LSU) assigned several students to plant black mangrove at the mouth of South Pass to research

survivability of the plants on the Mississippi River Delta. Approximately 450 plants were used in the project.

Winter plover surveys were conducted by a Canadian Fish and Wildlife contractor. During the surveys, 15 black-bellied plovers, 70 semi-palmated plovers and 16 snowy plovers were observed, of which three were banded. The banded plovers were from nesting populations found in both the U.S. Great Lakes and U.S. Great Plains breeding populations. Also observed were four American oystercatchers and numerous sanderlings and sand pipers.

Duck banding efforts resulted in 18 banded mottled ducks and four black-bellied whistling ducks.

A dove field and deer food plot were constructed during fiscal year 2008-2009 behind the Cadro Pass campground.

Area staff assisted with the collection of river shrimp (*Macrobrachium ohione*) samples for Dr. Ray Bauer's (UL Lafayette biology professor) research to assess the seasonal variation in the population structure and migration of this species of shrimp, which inhabits the Mississippi River.

Oil spills continue to be a chronic problem on the area. During fiscal year 2008-2009, staff responded to approximately nine spills, most a small amount, across the WMA. One spill originated immediately after Katrina and is still releasing product. This spill is adjacent to Dennis Pass, and has been labeled as the "Mystery Spill" because a responsible party was not named for several years. This year Dune Energy has been named as the responsible party. The U.S. Coast Guard is managing the project, and LDWF is working with Dune to develop a clean up strategy.

Oil and gas operations are continuing to increase. Dune Oil has drilled three new wells this year and has plans for several more. Other companies such as Forest Oil, Apache, Chevron and others have also been active on the WMA. Area staff, as well as the Minerals Management Section, continually meet with oil and gas companies on prospective best-use practices and least-impact approaches and monitor all work activities. Dune Oil initiated a 16-well P&A project.

The Deer Tagging Project continued in fiscal year 2008-2009. The goals of the project are to better understand deer habits in a freshwater marsh and to compare tooth wear and replacement patterns on age-known wild deer to the Servinghouse method. Twelve deer were tagged using airboats and net guns at night. Area staff are monitoring the tagged deer via motion cameras throughout the WMA, harvest accounts and staff observations.

Area staff conducted several rescues of stranded boaters this year. Most incidents involved pulling stranded boaters off sand bars on the WMA. Most were on bars in Pass-a-Loutre.

Twenty visitor use days were recorded at the headquarters this year.

The 2008 teal season harvest success at the Pass-a-Loutre WMA was 0.9 birds per hunter, which was down 40 percent from last years success of 2.4 teal per hunter effort. This was due to the high water impacts from the 2008 storm season. In addition, waterfowl hunter/harvest surveys revealed that harvest success for the regular waterfowl season was 3.6 birds per effort, which was slightly higher than 3.3 per effort in 2007-2008. The top three species harvested in descending order were gadwall, pintail and wigeon. In addition, 95 coots, 25 mergansers, 20 snow geese and five white-fronted geese were harvested during hunter interview dates.

Based on self-clearing permit and mandatory inspection data:

- **Camping** - 1,147 camping permits were filled out this year
- **Deer** - 67 harvest attempts were expended in the harvest of six deer, yielding a kill per effort of one deer per 11.2 efforts. All harvested deer were bucks
- **Hogs** - 126 harvest attempts were expended in the harvest of 44 hogs, yielding a kill per effort of one hog per 2.9 efforts

Pass-a-Loutre WMA trappers harvested 385 alligators at an average length of 7.4 feet. LDWF received \$41,141.85 for the 40 percent share of the revenues from the harvest. During the lottery season, 12 alligators (averaging 7.8 feet) were harvested and LDWF received \$1,576.80 for its 40 percent share of the revenue from the harvest.

According to user surveys, approximately 39,500 recreational users visited the WMA during fiscal year 2008-2009.

Annual rainfall was 44.8 inches.

POINTE-AUX-CHENES WMA

Pointe-aux-Chenes WMA is a 33,354-acre WMA located in southern Terrebonne and Lafourche parishes. It was purchased from the Exxon Company in 1968 at a cost of \$21 per acre and was part of the first purchase of marsh land by the Wildlife and Fisheries Commission. The revenue to purchase the properties was provided by the Commission's Conservation Fund, which at that time was primarily made up of monies derived from hunting and fishing licenses and mineral income from Pass-a-Loutre WMA.

In fiscal year 2008-2009 two wildlife observation towers were constructed on the WMA. The Barataria-Terrebonne National Estuary Program (BTNEP) funded the project.

Major acquisitions and repairs included the purchase of a new airboat, purchase of three metal storage buildings, repairs to the residence air conditioning unit, complete replacement of the dormitory air conditioning unit and repairs to all four axles of the marsh buggy excavator.

Several repairs were made to the various management levees and water control structures. Repairs include the PAC/DU levee and structures on the PAC/DU project, the Grand Bayou levee and the Montegut pullover.

Pointe aux Chenes was severely impacted by both hurricanes Gustav and Ike. Gustav was a direct hit on the WMA and caused primarily wind damage and some flooding. Hurricane Ike was a major flood event that put record storm surges near 9 feet on the WMA. The Quonset hut and boat storage shed were completely destroyed, while other buildings sustained significant damage. Equipment was also damaged, and management features such as levees and water control structures were all compromised. Many of the mitigation trees on the farm perished during Hurricane Ike. Large fish kills of primarily red drum, black drum, pogies and mullet were observed across the WMA after the storms. FEMA and ORM officials have visited the site several times and emergency repairs have been made.

Terrebonne Parish officials closed Island Road to fishing due to hurricane damage. However parish officials worked with LDWF staff to open the road to the Island Road boat launch for recreational fishing and launching of boats.

Following the hurricanes LDWF staff quickly repaired the boat launches, boat docks, electrical panels and pumps. Repairs were also made at the Point Farm tractor shed.

Chem Spray South was contracted to clean out the "forced drainage ditch" on Point Farm which drains most of the farm. The project cleaned the entire ditch below the 4-1 levee. The project also involved cleaning of the two cross ditches.

The Terrebonne Aquatic Clinic hosted their annual fishing clinic at the headquarters. Approximately 2,000 middle school students from across Terrebonne Parish visited the WMA to learn how to fish and were taught several outdoor activities.

The EPA conducted a survey of storm debris on the WMA. They then hired contractors that removed all containers that had hazardous chemicals.

Area staff worked closely with the Terrebonne Levee and Conservation District (TLCD) to formulate a temporary servitude to repair/construct the 4-1 and Morganza to the Gulf reach J-2 hurricane protection projects. The temporary access servitude was finalized and signed, but the permanent servitude for construction of J-2 will not be finalized until next fiscal year.

Lowland Construction was hired by TLCD to repair and elevated the 4-1 levee. These repairs will not be completed until next fiscal year. The project is to raise the 4-1 levee to 9 feet NAVD 88.

Morris Hebert surveyed all monuments and staff gauges in the PAC/DU project to verify or correct all elevation gauges following the storm. The monuments were found to have settled 0.1 feet in two years time, which was likely due to area subsidence.

Tellus Oil plugged and abandoned a well on Point Farm. LDWF required Tellus to remove all infrastructures from the site and return the soils to a plantable condition. Tellus removed all the limestone and supplied gypsum, sulfur, 5-13-13 fertilizer and iron and clay seeds to manipulate the site. LDWF staff incorporated the soil conditioners and planted the site.

Ten deer food plots were planted on the farm with iron and clay peas in preparation of the youth lottery deer hunts. The 100-acre dove field was also planted with millet, sorghum and sunflower for dove season.

Oil and gas operations kept staff involved with planning and monitoring of related work. Companies such as Baby Oil, Tellus Oil, Chevron and Gulf South Pipeline met with Pointe-aux-Chenes staff on issues such as repairs to an existing flow line, work-over rig on Point Farm, pipeline repair, marking and maintenance. As expected with oil and gas operations, spills and other related issues occurred. Some problems included a Baby Oil release in the vicinity of the Sulfur Mine and Bully Camp Pond. Tellus Oil also experienced two brine releases on the farm. All effected soils were excavated and removed from the site and new soil was deposited. Both affected sites have recovered well.

Los Alamos Laboratories installed a lightning detection device at the headquarters. This project is being done in an effort to help scientists predict hurricane strength tendencies. They believe that lightening intensity, duration and frequency may assist them in predicting hurricane strength trends. In exchange for the space and electrical service they have agreed to provide satellite internet service at the Pointe-aux-Chenes headquarters for the duration of the project.

Area staff along with the Aquarium of the Americas staff rescued a dolphin that became stranded in a borrow pit pond in lower Pointe-aux-Chenes. The dolphin was transported to the Aquarium of the Americas for rehabilitation.

Ducks Unlimited applied for a NAWCA grant to repair the Grand Bayou #1 project. If approved the project will enhance the levee system, replace the St. Louis Canal structure and install a new structure to introduce lower salinity water to the project area.

Waterfowl banding efforts continued this year with the banding of 427 mottled ducks and one wood duck. In addition, 49 mourning doves were banded on Pointe-aux-Chenes WMA.

The 2008 teal season had a slightly higher success rate than in 2007 with hunters averaging 1.6 teal per hunter attempt. Success rate for the 2007 season was 1.4 teal per

hunter. The regular duck season success was lower this year than in 2007-2008, where hunters averaged two ducks per hunter compared with 2.2 ducks per hunter the prior season. The most abundant species harvested in descending order were green-wing teal, gadwall, mottled duck and blue-wing teal. In addition, five coots, 35 gallinule, five mergansers, five rail and five snow geese were harvested during hunter interview dates.

Self-clearing permits demonstrated that 73 hunter attempts were made for deer which yielded one harvested buck, and 27 attempts for hogs were made without success. During the youth lottery deer hunts, 35 efforts were made resulting in the harvest of two deer (spike and a doe), one hog and a bobcat. Youth hunt success was one deer per 17.5 efforts.

During the 2008 alligator season, 280 alligators having an average length of 6.7 feet were harvested from the area. LDWF received \$22,697.46 for the 40 percent share of the revenue from the harvest. The lottery season harvested nine alligators averaging 7.1 feet in length. The department received \$872.20 for its 40 percent share of the revenue from this harvest.

According to user surveys, approximately 37,875 recreational users visited the WMA during fiscal year 2008-2009.

Approximately 1,260 visitor uses were recorded at the headquarters facility. A majority of these were by Enforcement Division. Other uses include interagency meetings, LDWF meetings, and state employees working around Pointe-aux-Chenes WMA.

Total rainfall for the year was 45.60 inches.

SALVADOR/TIMKEN WMA

Salvador WMA is a 33,354-acre WMA located in southern St. Charles Parish. It was purchased from the Exxon Company in 1968 at a cost of \$21 per acre and was part of the first purchase of marsh land by the Wildlife and Fisheries Commission. The revenue to purchase the properties was provided by the Commission's Conservation Fund, which at that time was primarily made up of monies derived from hunting and fishing licenses and mineral income from Pass-a-Loutre WMA.

This area continues to remain un-staffed; however, staff from Pass-a-Loutre maintain the area on a routine basis. In addition to routine maintenance of facilities and grounds, the old manager's residence has been cleaned and repaired and is now able to be used as an overnight facility for staff.

Major acquisitions included the purchase of a new 25 hp John Deere tractor, a new 30 kw diesel generator, a new 18-foot flat boat powered by an older 115 hp engine and 40 tons of limestone that were utilized to improve parking at our Pier 90 staging facility.

Area staff continues to work with local oil and gas companies and Minerals Management staff with permitting, pipeline work, etc. Four oil spills occurred on the area during fiscal year 2008-2009, and area staff was involved in coordination of cleanup activities.

Water hyacinth and giant salvinia continues to be a problem on the WMA since the opening of the Davis Pond Diversion. The aquatic weed control section has been working on the area to minimize the problems.

Hurricanes Gustav and Ike both pushed large storm surges on the WMA that inundated all buildings with flood water and damaged both area generators and other equipment. The surges caused salt burn on vegetation and killed sensitive vegetation such as cattail and bull tongue. Two large fish kills of freshwater fish were observed, including species such as bass, carp, brim and some red drum.

LDWF toured the Cypress Lumber Canal and West Canal with the "Make it Right" film crew. The tour was done to film a documentary on recovery of coastal Louisiana from Hurricane Katrina. The documentary was shown on The Learning Channel and the Home Improvement Network.

The second and final phase of the Lake Salvador shoreline protection project was completed. This project placed rocks along the shoreline of Lake Salvador in order to stop shoreline erosion. The project was a CIAP-funded project sponsored by Office of Coastal Protection and Restoration (OCPR).

Eighty percent of the wood duck boxes were utilized by black-bellied whistling ducks. This is the first year there was no use by wood ducks and was the most black-belly utilization recorded to date.

Hunters during the 2008 teal season experienced an average success rate of 1.4 teal per hunter effort. This success rate is slightly up from the 2007 season success of 1.1 teal per hunter effort. During the 2008-2009 duck season, hunter success fell to 1.8 ducks per hunter. This is slightly down from 2.1 ducks per hunter the previous season. The top three species harvested on the WMA in descending order were ring-neck duck, blue-wing teal and gadwall. In addition, hunters harvested 4,185 coots, 1,385 gallinule, and five Ross' geese during the 10 hunter interview dates.

During the 2008 waterfowl banding season, program staff banded 13 wood ducks, four mottled ducks and two black-bellied whistling ducks.

Self-clearing permits demonstrated that deer hunters expended 64 hunting attempts this year harvesting 11 deer (seven bucks and four does). This equates to a success of one deer per 5.8 efforts deer.

During the 2008 alligator season 512 alligators were harvested. The lottery season harvested an additional six alli-

gators averaging 6.3 feet in length. LDWF collected \$344.39 for its 40 percent share of the revenue from the lottery harvest.

According to user surveys, approximately 69,000 recreational users visited the WMA during fiscal year 2008-2009.

ST. TAMMANY WILDLIFE REFUGE

St. Tammany Refuge is a 1,310-acre refuge located on the north shore of Lake Pontchartrain in St. Tammany Parish. The refuge was purchased by the state in 1935 from the Great Southern Lumber Company. This refuge is managed by USFWS along with Big Branch Refuge.

Goose Point/Pointe Platte CWPPRA marsh creation project (PO-33) was constructed on Big Branch NWR and St. Tammany Refuge. The project constructed 417 acres of new marsh and benefitted 149 additional acres through marsh nourishment. The project was sponsored by USFWS and OCP.

Hurricane Ike pushed a significant storm surge over the refuge, but impacts were minimal.

Nutria numbers are increasing at an alarming rate on the refuge and LDWF staff have contacted the area trapper to increase his harvest. In addition, the USFWS removed in excess of 240 nutria from the property.

Thirteen alligators having an average length of 7.0 feet were harvested from the area during the 2008 alligator season. LDWF received \$1,200.77 as its 40 percent share of the revenue from the harvest.

STATE WILDLIFE REFUGE

State Wildlife Refuge is a 13,000-acre refuge located in southern Vermillion Parish. It was donated to the state in 1911 by Mr. Edward McIlhenny and Mr. Charles Ward to be managed as a wildlife refuge. This refuge is one of the oldest refuges in the country.

Coastal Operations staff continued with the maintenance of the headquarters facility. On average, Coastal staff made two or three trips to the refuge each month. The headquarters continued to be maintained to provide living accommodations for LDWF employees while conducting work at State Wildlife. Routine maintenance included grass cutting, spraying of herbicide, installation of new signs, repairs to the water well, etc.

Hurricane Gustav did little damage to the refuge. However, Hurricane Ike did extensive damage to management infrastructure including the Prien weir. The 7-foot storm surge did little damage to the facilities at the headquarters due to the extensive damage that existed from Hurricane Rita.

Area staff posted the boundary around bay shore of the refuge. They also installed channel markers and regulation signs.

Area staff began to make several repairs to the bunkhouse and to the area weirs. Repairs include replacing boardwalks, repair the water well, plumbing, etc. Dredging was also completed to improve access to the headquarters, North Lake Weir and the Marine Lab.

Seven nuisance alligators were removed from the refuge around popular fishing locations. The alligators averaged 7.3 feet in length.

Due to the lack of use of the facility, salinity, rainfall and recreational use data were not collected at the refuge.

WISNER WMA

Hurricanes Gustav and Ike both produced significant storm surges over the WMA that caused severe scour which damaged emergent marsh and removed virtually all submerged aquatic vegetation on the property. Significant erosion along the bay shore was also obvious.

Due to irreconcilable differences on oyster leases with the Edward Wisner Donation Advisory Committee, LDWF's lease was not renewed and the property is not longer part of the Wildlife Management Program. A statement was issued from the committee, "Wisner regrets that we were not able to settle our differences with the state and that this lease has terminated." Pointe-aux-Chenes staff removed all signs and posts from the property.

MINERALS MANAGEMENT

The mineral program is responsible for ensuring that mineral activities on all LDWF properties are compatible with the environment, and that WMA/refuge goals and objectives are met. Mineral program staff reviewed and evaluated 45 well locations, pipeline projects and other mineral exploration related permits on LDWF properties. The program also issued four rights-of-way, five surface leases and seven State Agency lease during fiscal year 2008-2009. All of these projects are reviewed and coordinated with field personnel to ensure that they are compatible with LDWF management area programs.

The mineral program generated fees in excess of \$43 million, which included mineral royalties, rights-of-way, surface leases and seismic fees. In addition, the mineral program staff issued 18 airboat/marsh buggy permits for various activities on LDWF properties. The mineral program also coordinated with the Office of Conservation for the removal of numerous abandoned oil and gas facilities on WMAs and refuges. The mineral program continues to work closely with other programs within LDWF and the Coastal Management Division within LDNR in the implementation of the efforts of the streamlining of Coastal Use Permits. In addition to the above mentioned duties, the Minerals Section has also undertaken the duties associated with LDWF's Dredge Fill Program. Approximately 75 to 100 dredge licenses are issued annually generating approximately \$1 million in annual revenue.

HABITAT

The objectives of the Habitat Section are to gather and compile data on fish and wildlife resources, determine the

requirements for conserving the resources and provide information and technical assistance to governmental agencies, non-governmental entities and the public. Data are also gathered on the potential impacts of human activities on the resources. These data and recommendations are provided to planners and decision-makers in advance of execution of projects in order to avoid, minimize or mitigate for any adverse environmental impacts. In fiscal year 2008-2009 the Habitat Section was divided into the five following programs: Louisiana Natural Heritage Program; Louisiana's Wildlife Action Plan and State Wildlife Grants; Statewide Environmental Investigations; Louisiana Natural and Scenic Rivers Program; and Grant and Contract Management.

LOUISIANA NATURAL HERITAGE PROGRAM

The Louisiana Natural Heritage Program (LNHP) gathers, compiles and disseminates information on unique, rare, threatened and endangered species, and unique, rare and critical habitats on the state, federal and international level.

In fiscal year 2008-2009, LNHP staff reviewed 1,088 project proposals and produced 29 digital data agreements for various public and private projects, assessing possible impacts on rare, threatened and endangered species and exemplary natural communities. Over 400 field days were spent by staff conducting surveys on individual species and natural communities for updating the LNHP database. A total of 525 new and 450 updated Element Occurrence Records were entered into the database.

The LNHP administered federal aid grants for species of special concern through the Endangered Species Act, Section 6 Program and hurricane grants and participated in the State Wildlife Grants (SWG) Program. Section 6 projects included the following species: Louisiana black bear; red-cockaded woodpecker; Louisiana pine snake; Louisiana pearlshell mussel; manatee; ringed map turtle; ivory billed woodpecker; and the endangered plant earthfruit. Hurricane grants from USFWS provided funds for winter plover surveys, waterbird nesting colony aerial surveys, Louisiana black bear work, red-cockaded woodpecker monitoring and gopher tortoise surveys, and allowed LNHP participation in brown pelican translocations. Projects funded through SWG included breeding bird surveys, computerizing rookery and stream data, digitizing bald eagle nesting sites and waterbird nesting colonies, participation in a region-wide aerial survey for swallow-tailed kite roosts, Monitoring Avian Productivity and Survivorship program, and the Natural Area Registry Program. In addition to SWG projects conducted by LNHP biologists, several contracted projects are also directed or monitored by LNHP. Such projects include investigations on nesting seabirds, surveys for bats and other rare mammals, insect assemblages in saline prairies, aquatic surveys for fish and mussels, waterbird usage of moist soil units on WMAs, etc.

During fiscal year 2008-2009, LNHP cooperated with BTNEP and USFWS to provide data for the manuscript "A Colonial Seabird Nesting Survey Compendium for

Coastal Louisiana." This project involved:

1. a query of the database to obtain all seabird data.
2. compilation of the data into a user friendly format.
3. attendance of several meetings in Lafayette with all parties participating in the project.
4. review and editing of the manuscript.

The data for this project included all seabird colony information in the LNHP database from the 1970s to present for approximately 500 waterbird colonies. The manuscript is slated for publication sometime in 2010.

The LNHP staff participated in Christmas Bird Counts, the Winter Bird Atlas, the Rusty Blackbird Blitz and statewide Louisiana Amphibian Monitoring Program survey routes. Staff also coordinated and participated in the annual Breeding Bird Surveys, and was able to pay participants for the first time in the 25+ year history of the program.

LNHP completed the fourth and initiated the fifth year of the Sherburne WMA Monitoring Avian Productivity and Survivorship Study (MAPS). This ongoing project is designed to assess LDWF's timber prescriptions on non-game landbird populations. LDWF staff will perform a detailed data analysis after five years of MAPS data have been collected. LDWF's participation in the nationwide MAPS program allows researchers to assess regional non-game landbird population trends as well as local population trends.

The staff coordinated and conducted other wildlife surveys and activities, including the following:

- Coordinated and conducted winter piping plover surveys for coastal Louisiana with partners from LSU, BTNEP, USFWS and The National Audubon Society.
- Coordinated and compiled the Mid-winter Bald and Golden Eagle Survey with U.S. Geological Survey.
- Conducted mist-netting demonstrations at the Grand Isle Migratory Bird Festival and Neotropical Migratory Songbird Tour at Sherburne WMA.
- Taught three-hour course on Louisiana birds at the Becoming an Outdoor Woman workshop series.
- Presented interpretive display on Louisiana's threatened and endangered species and backyard wildlife at National Hunting and Fishing Day.
- Assisted producers of nature documentaries in locating and filming footage of Louisiana's natural heritage.
- Coordinated and conducted statewide breeding bird surveys and an amphibian monitoring program utilizing both professional biologists and private citizens to collect data.

Staff biologists regularly interacted with the public through school lectures, workshops, field days, conferences and festivals. The Grand Isle Migratory Bird Festival allowed the public to view bird banding activities and provided the opportunity to discuss non-game bird conservation on our state lands. Staff submitted multiple articles for publication in scientific journals and popular magazines.

LNHP staff represented LDWF on numerous committees and at meetings including the Ivory-billed Woodpecker Recovery Team, East Gulf Plain Joint Venture Management Board, Southeast Partner's in Flight Management Board and Technical Committee, the Mississippi Flyway Council Non-game Technical Committee, the Swallow-tailed Kite Conservation Alliance, the Southern Wings initiative of the Association of Fish and Wildlife Agencies, the Western Red-cockaded Woodpecker Translocation Cooperative, the Western Gulf Coastal Plain Joint Venture, National Audubon Society Important Bird Areas Planning Committee, the Atchafalaya Basin Bird Committee, State Wildlife Grant Committee, The Louisiana Pine Snake Conservation Committee, Gopher tortoise Council, and the Louisiana Forestry Association Endangered Species and Recreation Committee. Staff also delivered presentations to various user groups regarding non-game resource issues.

In fiscal year 2008-2009, staff issued 99 Scientific Collecting permits for research statewide. Also, owners of restricted snakes (constrictors over 12 feet in length and venomous snakes) are required to obtain annual permits from LDWF. By the end of fiscal year 2008-2009, 20 restricted snake permits had been issued.

Louisiana Natural Areas Registry, a program developed to provide landowners with the opportunity to voluntarily protect and manage significant natural heritage resources found on their properties, registered five new sites totaling 1,010.5 acres, and these are included with the 110 active registries that total 46,648.7 acres. The Louisiana Wildlife and Fisheries Commission accepted a notice of intent that would allow LDWF to enter into dedication and servitude agreements with landowners who opt to participate in LDWF's Natural Areas Registry. The commission took the action at their Nov. 6, 2009 meeting. Servitude forms were developed by LNHP in 2008 and 2009, and a Natural Areas Preserve Committee was developed with LDWF employees. The function of the committee will be to assess candidate site packages to recommend servitudes to the Secretary.

All registry members were contacted in August 2008 via questionnaire and followed up with a phone call or visit to assist with management issues. LNHP visited 50 Natural Areas Registry sites and 15 proposed sites and developed survey reports outlining plants of special concern, assessing site condition and giving management recommendations for landowners. Quarterly newsletters were developed and were distributed to registry members and LDWF employees. ArcView files were created for all proposed and new registries. Registry certificates were mailed and signs were delivered to new and existing registry members. Computer records of all existing Registered Natural Areas were updated for the LNHP database.

Post-Hurricane Gustav site assessments were completed for half of the sites within the impact area. The Natural Areas Program Coordinator also attended the Natural Areas Conference, the Prescribed Fire Council

Conference and the Louisiana Society of American Foresters annual meetings.

LOUISIANA'S WILDLIFE ACTION PLAN & STATE WILDLIFE GRANTS

In November 2001, the Federal Government created the State Wildlife Grant (SWG) program. According to the Federal legislation, these grants were established "for the development and implementation of programs for the benefit of wildlife and their habitat, including species that are not hunted or fished." The SWG program receives annual Congressional appropriations. USFWS apportions these funds to state fish and wildlife agencies. Since 2002, LDWF's annual apportionment has been approximately \$1 million.

Congress stipulated that each state fish and wildlife agency that wished to participate in the SWG program must develop a Comprehensive Wildlife Conservation Strategy by October 2005. In response, LDWF developed a comprehensive planning document that would guide LDWF's use of SWG grant funds for the next 10 years. The document, known as the state's Wildlife Action Plan (WAP), was submitted for approval to the National Advisory Acceptance Team and subsequently approved in December 2005. In summary, the WAP is the blueprint guiding LDWF's use of SWG funds.

During the 2008-2009 fiscal year, 10 SWG grants were closed. The SWG Coordinator insures that copies of all final reports for each of the closed SWG grants are made available to interested parties.

During the 2008-2009 fiscal year, seven new project proposals were received for funding consideration. Each of the proposals was approved by the SWG Committee and funded. These projects include:

1. Addressing Recovery Criteria for the Louisiana Black Bear
2. Aquatic Herpetofaunal Survey at Big Lake and Sicily Island WMAs
3. Status, Distribution and Habitat Utilization Surveys of Bird Species of Conservation Concern: Winter Projects
4. Habitat Suitability and Condition Assessment of Longleaf Pine Flatwood Savannah Habitat for Species of Conservation Concern
5. Louisiana Coastal Prairie Condition Assessment and Grassland Bird Habitat Restoration
6. Watershed-scale Assessment of Fish Assemblages in the Amite, Tangipahoa, Tickfaw and Tchefuncte Rivers with Emphasis on the Broadstripe Topminnow
7. SWG – Preparations for Eventual Wildlife Action Plan Revision.

At the end of the fiscal year, there were 37 ongoing SWG-funded projects.

In order to improve partnerships with federal and state natural resource agencies, staff presented SWG and WAP information at several meetings, including the Annual LDWF/NRCS Coordination Meeting and a meeting of the Lower Mississippi Valley Joint Venture. To distribute

WAP information to a wider audience, staff authored an article for the *Louisiana Conservationist* magazine. For more information about the WAP or the SWG program, including abstracts for closed projects, please visit <http://www.wlf.louisiana.gov/experience/wildlifeactionplan/>.

STATEWIDE ENVIRONMENTAL INVESTIGATIONS

Statewide Environmental Investigations is authorized under the Fish and Wildlife Coordination Act and is partially funded by a USFWS grant. Staff is responsible for reviewing and providing comments and mitigation recommendations on all permits sought from state and federal environmental regulatory agencies. Staff members received and reviewed 1,599 state and federal permit applications during fiscal year 2008-2009. In response, written comments and recommendations aimed at avoiding, minimizing and/or mitigating adverse impacts were issued for all state and federal permit applications received.

In addition to permit review, staff participated in permit site inspections and habitat evaluations, provided technical assistance to the public on wetland issues and worked with private developers and consultants involved in the regulatory process. During fiscal year 2008-2009, staff spent approximately 111 days conducting on-site field inspections and participated in approximately 208 meetings with applicants, agents and regulatory agency personnel.

Staff members also represented the agency on two Mitigation Bank Interagency Review Teams (IRT) chaired separately by the USACE Vicksburg and New Orleans Districts. The purpose of the IRT is to provide regulatory review, approval, and oversight of wetlands mitigation banks. During fiscal year 2008-2009, staff evaluated, inspected and provided technical comments and recommendations on over 35 proposed wetlands mitigation banks. A total of 11 wetland mitigation banks were approved and authorized in Louisiana during the fiscal year, totaling over 2,600 acres. Staff also attended all IRT team meetings and as many of the site investigations as was possible.

Staff continued to provide technical assistance to USACE related to post-hurricane (i.e., Katrina, Rita, Gustav and Ike) debris removal, levee refurbishment, planning of improved hurricane protection systems and identification of suitable compensatory mitigation to offset implementation of improved hurricane protection systems.

Staff continued to coordinate closely with the USDA Natural Resources Conservation Service (NRCS) in the development and implementation of the Emergency Watershed Protection (EWP) program in areas of Louisiana impacted by hurricanes Rita, Katrina, Gustav and Ike. We continued to provide technical assistance to NRCS, primarily in St. Tammany Parish, to ensure that all EWP work was performed according to agency specifications. In cases involving contractor violations of EWP program guidelines and procedures, we assisted NRCS in

site investigations and in restoration plan development and implementation.

Staff joined with NRCS and USFWS personnel to review 132 NRCS conservation practices utilized in Louisiana for promotion of natural resources conservation. Our purposes for joining the multi-agency review were to increase Endangered Species Act (ESA) Section 7 consultation efficiency, to further the conservation of ESA-listed species and other rare species and natural communities in Louisiana, and to increase coordination between LDWF, NRCS and USFWS. The result of this multi-agency consultation was a document titled, "Conservation of At-Risk Species in Louisiana." The document was completed in September 2009.

Staff was involved in the planning and evaluation of 21 proposed Federal Energy Regulatory Commission (FERC) projects. FERC regulates the interstate transmission of natural gas, oil and electricity. Many of these 21 projects included the installation of natural gas pipelines which affected several Louisiana parishes and often posed significant adverse impacts to wetlands, stream crossings, riparian corridors, species and communities of conservation concern and other fish and wildlife resources. Staff worked with the applicants, agents and FERC to avoid, minimize and/or mitigate these adverse impacts.

LDWF worked with numerous governmental agencies in conducting environmental investigations including USFWS, National Marine Fisheries Service, EPA, USACE, U.S. Forest Service, the USDA NRCS, Federal Highway Administration, Federal Aviation Administration, Farmers Home Administration, U.S. Coast Guard, Department of Energy, FERC, Department of Defense, Housing and Urban Development, as well as Louisiana Department of Transportation and Development, LDNR, Louisiana Department of Environmental Quality and the Louisiana Department of Culture, Recreation and Tourism.

Statewide Environmental Investigations also assisted in protecting all lessees of private oyster grounds by reviewing and approving, sometimes with modification, water bottom assessments submitted by project applicants prior to the initiation of activities affecting state water bottoms under lease to private parties for oyster production. Coastal Use Permit applicants can be required, at the request of Statewide Environmental Investigations staff, to modify the activity if the proposed location unnecessarily impacts an oyster reef. There were 145 water bottom assessments reviewed and approved by agency staff during fiscal year 2008-2009.

LOUISIANA NATURAL & SCENIC RIVERS PROGRAM

The Scenic Rivers Program is charged with the administration of the Louisiana Natural and Scenic Rivers Act. The act requires that LDWF, through the Scenic Rivers Coordinator, administer a permitting system for activities that have potential for significant ecological impact to designated natural and scenic rivers, as well as a system

of monitoring, surveillance, investigation and enforcement for the purpose of insuring compliance with the act. The Scenic Rivers Act, and the rules and regulations promulgated under its authority, provide for the development of management plans, stream surveys and enforcement.

There are currently approximately 80 streams and/or stream segments in the system constituting an estimated 3,000 linear miles of Louisiana's streams, rivers and bayous. Bayou Manchac in East Baton Rouge, Ascension and Iberville parishes was designated Louisiana's second Historic and Scenic River System during the 2009 Session of the Legislature. Bayou Liberty in St. Tammany Parish was nominated by the Legislature in 2009 for inclusion in the Scenic Rivers System and is currently being studied, and a report is being prepared for consideration in the Legislature's 2010 Regular Session. If included, it will result in an average addition of one stream per year to the system over the last 12 years.

Several enforcement actions were initiated in fiscal year 2008-2009. These included cases of illegal mining activities, littering, illegal point source discharges, operating on scenic rivers without permits and illegal commercial cutting of trees. One case of channel realignment in St. Tammany Parish made in 2006 remains an ongoing restoration effort by the responsible party. Staff has continued to work with the Webster Parish Police Jury and the State Land Office to remove a number of out-of-service bridges and other man-made obstructions on Bayou Dorcheat, thus restoring navigability and natural flow to the stream. All but one of these obstructions remains and its removal is anticipated in early 2010. The coordinator, through routine surveillance, project inspections and response to complaints, ensured compliance with permit conditions, utilization of adequate sediment control measures and appropriate clean up and restoration of permitted project sites.

The coordinator maintained regular contact with both state and federal agencies to insure that designated scenic rivers were considered in all levels of planning and permitting. The coordinator also worked closely with city planners, police juries, mayors and local interest groups and organizations throughout the state. The coordinator gave presentations on the program to two local civic organizations and continues to participate as chair on a parish government board formed to restore and promote Bayou Dorcheat in Webster Parish. The coordinator gave presentations in four parishes throughout the state for the Louisiana Forestry Association's Master Logger Program for the purpose of educating participants on how forestry is regulated by the Scenic Rivers Act and the importance of maintaining and protecting riparian buffers. One emergency Scenic River Permit was issued for the construction of a privately owned cattle bridge across Bayou Dorcheat during a time of high water and after a fire that left cattle stranded on one side of the bayou. This project was coordinated with the Louisiana State Land Office and the activity was monitored closely by the coordinator for compliance with permit conditions; particularly those requiring that it not interfere with navigation.

A total of 35 Scenic Rivers permits were issued during fiscal year 2008-2009. One permit was denied for a proposed gravel mining operation. The coordinator spent 54 days in statewide travel status conducting site visits and investigations, giving presentations and attending meetings.

GRANT & CONTRACT MANAGEMENT

Grant and Contract Management is the support for scientific contracts that insures that all the requirements of the grantor and the law are met.

Draft scientific contracts were received by Grant and Contract Management in varying degrees of completeness. When completed, all contracts resembled each other in content and format and included all necessary project-specific clauses. Completed contracts were then submitted to the appropriate administrators for signature, thus authorizing the action.

Upon payment request, Grant and Contract Management insured that payment conditions were met and that LDWF was satisfied with the work. Then payments or reimbursements were made. Grant and Contract Management also assisted LDWF project managers in the contract amendment process.

Grant and Contract Management kept contracts working toward their objectives by getting them through the approval process promptly, having the contractors reimbursed timely, and obtaining the desired results. In fiscal year 2008-2009, Grant and Contract Management maintained over 100 total contracts, 52 of which were active at the end of the fiscal year.

ALLIGATOR PROGRAM

Louisiana's Alligator Management Program consists of two complex segments: research/management of the wild population and a statewide farm/ranch program. The program is funded by self-generated revenues (alligator hide tag fees, shipping label fees, other alligator related fees and alligator hide severance taxes).

WILD ALLIGATOR PROGRAM

Inventory methods, harvest regulations, tagging and reporting requirements and a complex computer program are continually upgraded to regulate and monitor a sustainable use alligator management program in Louisiana. Annual coast-wide alligator nest surveys are conducted to index alligator populations and to establish harvest quotas in coastal Louisiana. During summer 2008 we estimated that 43,437 alligator nests were present in the coastal marsh habitat, a slight increase from the previous year (*Figure 1*). Coastal habitats have recovered significantly from the 2005 and 2008 hurricanes and the 2006 and 2009 droughts.

Wild alligator harvest quotas are established to correlate harvest with alligator population density and distribution. Alligator harvest tags are allocated to individuals who either own or lease land that is considered alligator habitat. Digital landowner and survey information are com-

bined with the latest aerial photography images to allow for an accurate assessment/classification of each participant's property. The majority of the lands enrolled in the wild alligator harvest program have been entered in the system.

In late August and September 2008, the annual wild alligator harvest produced 31,776 alligators, which averaged 7.5 feet in total length and had an estimated value of over \$11.5 million. Harvest numbers were slightly increased as habitats and alligator populations continued to recover from the 2005 hurricanes and subsequent drought. Adult-sized alligators (those 6 feet and larger) comprised the majority of the standard harvest (*Figure 2*).

In late August and September 2008, the experimental bonus tag program was continued. This program is designed to harvest 4-to-5-foot alligators which are abundant in the wild alligator population but are not targeted in the standard wild harvest program. Over 3,850 bonus alligators were harvested averaging 6 feet in length, which were valued at nearly \$1.2 million.

FARM ALLIGATOR PROGRAM

The December 2008 statewide farm/ranch inventory was a record 731,909. The 2007 farm harvest, September 2007 - August 2008, was 305,086 with a base value of \$58.9 million. Average belly width of farm raised alligators was 24.8 centimeters (4.08 feet in length) with the majority of the harvest comprised of 18-32 centimeters belly width alligators (*Figure 3*).

During 2008, a total of 801,679 wild alligator eggs were permitted for collection. A total of 530,579 wild alligator eggs were collected producing 459,887 hatchling alligators. Farmers are required to return 12 percent of the hatchlings as 4-foot alligators, which compensates for the collection of eggs. The remaining animals can be sold by the farmer. During 2008-2009 a total of 54,584 farm-raised alligators were released to the wild. All released alligators were measured, marked, tagged and sexed. Survival of farm-released alligators appears to be similar to wild alligators. Several thousand re-trapped alligators were harvested in September 2008. Data evaluation continues on survival rates of the farm released alligators.

Program staff routinely communicates with various alligator industry participants including hunters, farmers, landowners and dealers. Information is provided regarding wild alligator and alligator egg harvests, harvest statistics and management recommendations. Staff routinely visits alligator farms providing recommendations on alligator husbandry and culture. Numerous requests for information are handled each year. The Alligator Program staff continued production of an informative newsletter which is distributed to alligator industry participants periodically.

HURRICANE IMPACTS

Coastal Louisiana was impacted by two devastating hurricanes in 2008. Hurricane Gustav struck southeastern Louisiana on Sept. 1, and Hurricane Ike hit Galveston

FIGURE 1.

Louisiana Coastal Marsh Alligator Nest Production (1970-2008)

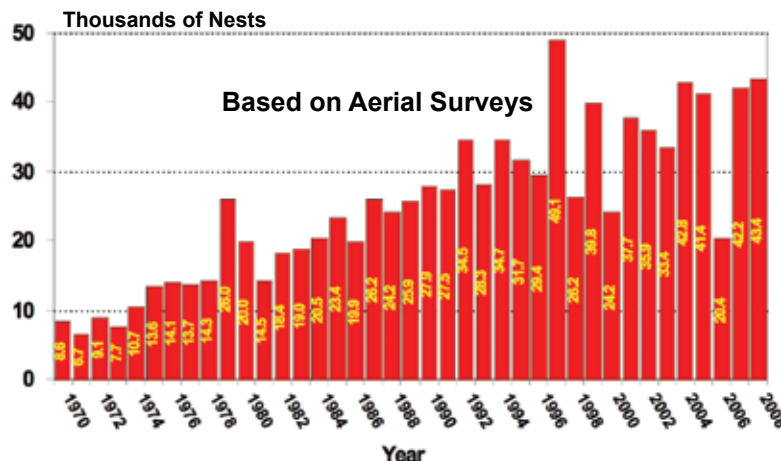


FIGURE 2.

Louisiana Wild Alligators Harvested 2008 Regular Harvest Skin Lengths

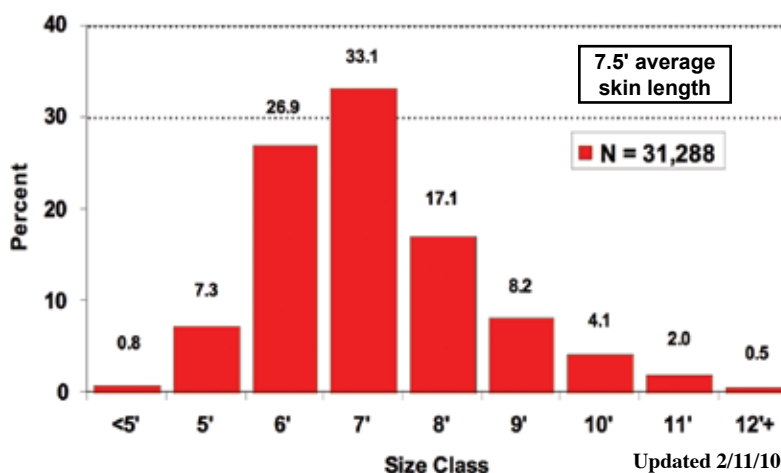
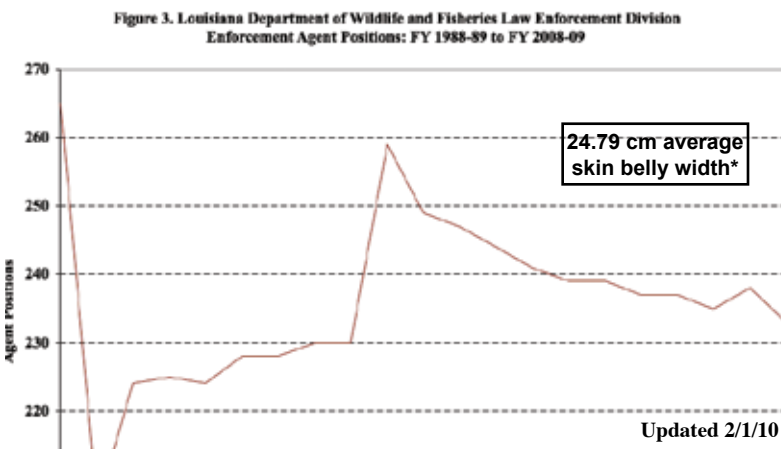


FIGURE 3.

Louisiana Farm Alligators Harvested 2007 Skin Belly Widths



*Skin lengths averaged approximately 49 inches, 2007 Tag Year

and affected southwestern Louisiana on Sept. 13. Massive tidal storm surges inundated coastal marshes with high salinity waters across virtually the entire coast of Louisiana, which is prime alligator habitat. Some direct alligator mortality was observed, but overall long-term impact of these storms on alligator habitat remains to be seen. Direct physical damage to wetlands through scour, scrapes, erosion and rolling has been noted, and high salinities were accentuated by lower than usual winter rainfall after the storms. Storm and drought impacts in Cameron and Vermilion parishes were severe. Alligator habitats and populations throughout these southwestern Louisiana parishes were particularly stressed during the spring and summer of 2009. Annual coastal nesting surveys conducted in late June and early July 2009 provided additional data on alligator habitat alteration resulting from these hurricanes. Nest production in southwest Louisiana in 2009 was severely impacted as per above, compounded by the severe superimposed drought. Fortunately these changes were not as severe as they were following hurricanes Katrina and Rita.

RESEARCH ACTIVITIES

The following list provides a summary of the various research and monitoring projects that the alligator program staff conducted and/or participated in during fiscal year 2008-2009.

Monitoring

Evaluation of survival, growth and reproduction in farm released alligators

This activity involves numerous projects related to survival analysis, growth and reproductive success (farm-released vs. native wild). Due to the recent reduction of the 14 percent release rate, it is imperative to monitor survival closely. This will be even more important in the future, as the 12 percent return rate started with the 2007 permits (releases "due" in 2009). Although some growth information has been published, we plan to evaluate growth rates in more detail; we now have "retraps" that were captured 10-15 years since release, and this is undoubtedly one of the largest mark-recapture projects currently in progress. Staff from the LSU Department of Experimental Statistics assists with annual evaluation of survival based on farm "retraps" recovered in September harvests. We are also evaluating dispersal of animals from release sites.

Coast-wide nest survey

The annual coastal nesting survey is essential for monitoring our alligator population, and is used annually to determine wild alligator and wild alligator egg harvest quotas (for the adult harvest each September as well as egg ranching quotas). This is an integral part of our required "finding of no detriment" needed for export authority. This survey was of particular interest in summer 2006, providing valuable information to evaluate the impact of hurricanes Katrina and Rita, and the worst drought in 111 years that occurred in fall/winter/spring of 2005-2006. We collected similar such needed information in 2009, due to hurricanes Gustav and Ike striking in 2008.

Evaluation of statewide harvest program

We continue to analyze size class frequency distribution, average size, sex ratios, etc. for alligators harvested each year. This project, coupled with coast wide nest survey will be continued as long as a harvest program is in place. Data generated from these projects provides the basis for evaluating the impact of our current harvest strategies, and for establishment of annual wild harvest quotas.

Evaluation of alligator nest density

LDWF biologists work with selected cooperating alligator farmers to gain access to their GPS data from annual egg collections. This study will facilitate comparisons between our coast-wide nest survey and estimates of nest density as recorded by the farmer during egg collections. Some farmers have advised staff of reduced nest production on selected wetlands; this study will allow us to evaluate nest distribution and density changes over time. Data from 2006 was particularly important for comparisons due to the massive impacts of hurricanes Katrina and Rita in late 2005. We anticipate similar such needed information in 2009, due to hurricanes Gustav and Ike striking in 2008. The nesting survey was started in fiscal year 2007-2008 and completed in fiscal year 2008-2009.

West Nile Virus (WNV)

LDWF, in conjunction with LSU School of Veterinary Medicine, continues to monitor occurrence of WNV on alligator farms in Louisiana. Initial mortality related to WNV occurred in fall/winter 2003. Aggressive mosquito control on farms has reduced on-farm mosquito populations and seems to have reduced the incidence of WNV in 2008-2009. Studies have determined that WNV exposure is a predisposing factor in development of "PIX/LPSA" skin lesions.

Contracts

Diagnostic services

LSU School of Veterinary Medicine (Dr. Nevarez) - Dr. Nevarez is contracted to provide diagnostic services as needed for the alligator industry. Farmers may consult with Dr. Nevarez at any time for assistance with any alligator husbandry or disease issues.

LSU Experimental Statistics

The LSU Department of Experimental Statistics is under contract to provide technical statistical expertise for numerous alligator projects; most importantly, the evaluation of survival of farm-released alligators, population trends from nesting survey data and more recently, hide grade/length correlations.

Hurricane effects on alligator physiology

We initiated a new study to determine the effects of high salinities seen in the marsh after Hurricane Rita by collecting blood samples from wild alligators to measure stress hormone (plasma corticosterone), electrolytes (sodium, potassium, chloride) and osmolality, as well as general body condition and behavior of the alligators. The superimposed drought in winter of 2005-2006 made interpretation of results difficult. A manuscript was pre-

pared by LDWF staff and presented by Dr. Lance at the International Union for Conservation of Nature's Crocodile Specialist Group Meeting in Montlimar, France in June 2006. This contract ended in mid-August 2007. A paper on this work was presented at the SICB meeting in San Antonio in January 2008 and at the Crocodile Specialist Group Meeting in Bolivia in June 2008. Updated findings were analyzed and a manuscript was prepared, submitted and published in the scientific literature.

Evaluate the health status of farm released alligators

Numerous alligators originating from several different farms were sampled to evaluate their overall health at the time of release. Biopsies were taken of colonic tissue and blood samples were drawn to analyze the plasma and serum. Study results indicate that the released alligators are healthy, that West Nile virus remains one of the most important infectious diseases for captive-reared alligators and that continued surveillance is necessary. Alligators brought into Louisiana from Georgia for release were found to be of poorer health than Louisiana-reared alligators, and further release of these animals should be closely monitored. Continuation of this study is planned for 2009-2010.

Determine the use of antibiotics on alligator farms in Louisiana and determine the pharmacokinetic disposition and tissue distribution of tetracycline after single-dose administration

Phase 1 of this project was completed with some difficulties encountered in achieving therapeutic levels of tetracycline in alligators. Several trials were conducted in order to determine dosage rates. In 2008-2009 this research will continue to determine tissue distribution levels and elimination rates. This information can be used by veterinarians and alligator ranchers to determine appropriate antibiotic treatment regimens for captive animals with susceptible infections.

PUBLICATIONS/COOPERATIVE RESEARCH

The following scientific papers were published from approximately July 2008 - June 2009:

Elsey, R. M., P. L. Trosclair III, and T. C. Glenn. 2008. Nest site fidelity in American alligators in a Louisiana coastal marsh. *Southeastern Naturalist*. 7(4):737-743.

Elsey, R. M., and P. L. Trosclair III. 2008. Effect of timing of egg collection on growth in hatchling and juvenile American alligators. *Herpetological Bulletin*. 105:13-18.

Gist, D. H., A. Bagwill, V. Lance, D. M. Sever, and R. M. Elsey. 2008. Sperm storage in the oviduct of the American alligator. *Journal of Experimental Zoology*. 309A:581-587.

Allen, V. R., R. M. Elsey, N. Jones, J. Wright, and J. R. Hutchinson. 2009. Ontogenetic scaling of limb muscle properties and terrestrial locomotion performance in *Alligator mississippiensis*. (Abstract). Presented at the Anatomical Society of Great Britain and Ireland meeting. January 2009.

Bagwill, A., D. M. Sever, and R. M. Elsey. 2009. Seasonal variation of the oviduct of the American alligator, *Alligator mississippiensis* (Reptilia: Crocodylia). *J. Morph.* 270:702-713.

Bonnan, M. F., V. J. Livingston, R. M. Elsey, J. L. Sandrik, and D. R. Wilhite. 2009. Differential limb scaling in the American alligator (*Alligator mississippiensis*) and its implications for fossil archosaur locomotor evolution. (Abstract). Presented at the 43rd Annual GSA Meeting (North-Central Section), 2-3 April 2009. *Geological Society of America Abstracts* 41(4) pg. 8.

Dacke, C. G., R. M. Elsey, T. Sugiyama, M. H. Schweitzer, P. L. Trosclair, III, and J. Nevarez. 2009. Labile sources of calcium for egg laying in the American alligator (*Alligator mississippiensis*). (Abstract). Presented at the International Bone and Mineral Society Meeting. Sydney, Australia. March 2009.

Gabrey, S. W., N. Kinler, and R. M. Elsey. 2009. Impacts of nutria removal on the diet of American alligators in south Louisiana. *Southeastern Naturalist*. 8(2):347-354.

Lance, V. A., D. C. Rostal, R. M. Elsey, and P. L. Trosclair, III. 2009. Ultrasonography of reproductive structures and hormonal correlates in female American alligators, *Alligator mississippiensis*, in southwest Louisiana. *General and Comparative Endocrinology*. 162:251-256.

Livingston, V. J., M. F. Bonnan, R. M. Elsey, J. L. Sandrik, and D. R. Wilhite. 2009. Differential limb scaling in the American alligator (*Alligator mississippiensis*) and its implications for archosaur locomotor evolution. *The Anatomical Record*. 292:787-797.

Owerkowicz, T., R. M. Elsey, and J. W. Hicks. 2009. Atmospheric oxygen level affects growth trajectory, cardiopulmonary allometry and metabolic rate in the American alligator (*Alligator mississippiensis*). *Journal of Experimental Biology*. 212:1237-1247.



OFFICE OF FISHERIES

The Office of Fisheries is comprised of three divisions, Marine Fisheries, Inland Fisheries and Research and Assessment.

MARINE FISHERIES DIVISION

The Marine Fisheries Division is charged with management of the full range of Louisiana's estuarine and marine resources. Division responsibilities are categorized as Fisheries Management Programs and Habitat Protection Programs. Participation in numerous local, state, regional, national and international committees, task forces and councils provides professional expertise in the development of state and federal regulation, legislation and standards governing the wise use of renewable natural resources.

INLAND FISHERIES DIVISION

The Inland Fisheries Division manages fish populations and habitats for the conservation and improvement of sport and commercial fishing primarily in freshwater areas of the state. Division responsibilities are divided into two major categories: Fisheries Management and Aquatic Habitat Management.

RESEARCH & ASSESSMENT DIVISION

It is the mission of the Louisiana Department of Wildlife and Fisheries Research and Assessment Division to provide technical and scientific support to the Office of Fisheries as it relates to fisheries management issues; to improve fishing/boating access and opportunity for users to enjoy Louisiana's fishery resources; and to promote participation in Louisiana's fisheries through outreach and education.

ENVIRONMENTAL & HABITAT DISASTER RECOVERY

The Office of Fisheries strives to maintain Louisiana's abundant fishery resources and its commercial and recreational opportunities by seeking and efficiently implementing federally funded programs to aid the recreational and commercial fishing industries in recovery from natural and man-made disasters. Since Hurricane Andrew in 1992, the Office of Fisheries has received continual federal appropriations to assist the commercial and recreational fishing industries during times of declared disasters and aid these industries in recovery from the devastation. The recovery efforts include repairs to state fish hatcheries, building of artificial reefs and grant assistance awarded to vital fishing and boating access points.

EMERGENCY DISASTER RELIEF PROGRAM (EDRP) 1

In response to the hurricanes of 2005, Congress authorized its first fishery disaster relief in June 2006 (Public Law 109-234). On Aug. 25, 2006, the U.S. Department of Commerce announced the issuing of a grant to the Gulf States Marine Fisheries Commission (GSMFC) to aid Louisiana, Mississippi, Alabama, Texas and Florida in rebuilding fisheries. The National Oceanic and Atmospheric Administration (NOAA) granted funds to GSMFC for further subgrant to the Gulf Coast states. Louisiana's subgrant awards are: OR-RRR-020-2006-01 entitled "Re-seeding, Rehabilitating and Restoring Oyster Reefs" (Job 1); OB-SGR-021-2006-01 entitled "Rehabilitating Oyster Bed and Shrimp Grounds" (Job 2); and CR-M-022-2006-01 entitled "Cooperative Research to Monitor Recovery of Gulf Fisheries" (Job 3).

Following the passage of hurricanes Katrina and Rita, fishermen from across the coast formed the Louisiana Fishing Communities Rebuilding Coalition and identified funding priorities for the recovery of Louisiana's commercial and recreational fisheries. Priorities including debris removal and the evaluation of the status and health of natural resources are addressed by this congressional appropriation.

AUTHORIZED PURPOSES AND FUNDING CATEGORIES OF PUBLIC LAW 109-234

1. Reseeding, rehabilitating and restoring oyster reefs

- Surveys of public oyster seed grounds and seed reservations; public and private oyster reef rehabilitation, including sediment/debris removal and reef

building; biological/environmental monitoring on the public grounds.

2. Rehabilitating oyster beds and shrimp grounds

- Documenting and removing underwater obstructions/wet debris; projects to restore marine species access to impounded areas and to demonstrate use of oyster reef to protect shorelines.

3. Cooperative research to monitor recovery of Gulf fisheries

- Monitoring recovery of fishing industries; surveying licensed fishermen, dealers and processors to document and report debris on the fishing grounds; characterize present fishing operations and collect investment costs, operating costs, handling and storage capacity; perceived problems facing the industry, opinions on various management practices and other operation characteristics; recreational fishery surveys.
- Funding for fishery-independent data collections to monitor recovery of Gulf fishery stocks.

Projects were designed to be auditable and accountable, and to include local fishing communities and parishes or other local entities to best use local resources. General planning meetings were held among project staff on a regular and continuing basis throughout the planning and implementation period. Scoping and planning meetings were held with state and federal agencies and representatives of the fishing industries to identify needs and opportunities.

JOB 1: RESEEDING, REHABILITATION AND RESTORATION OF OYSTER GROUNDS - SUBGRANT OR-RRR-020-2006-01

Private Oyster Lease Rehabilitation (POLR) Program

The POLR program is an approximately \$12 million program designed to provide reimbursement assistance to private leaseholders for the performance of rehabilitation activities on privately-leased water bottoms. Rehabilitation activities available to the leaseholder under the POLR program include:

1. sediment/debris removal.
2. cultch deposition.
3. resurveying/remarking of leases.
4. relaying of oysters.
5. bedding (i.e., transplanting) of oysters.
6. replacement of lost/damaged lease records.

The program reimburses participating leaseholders (contracting parties) for costs associated with rehabilitation activities up to a qualifying amount provided that the leaseholder supplies supporting evidence that documents the rehabilitation activities were performed.

The POLR program continues to follow strict audit and accountability measures, and has required that participating leaseholders sign a Cooperative Endeavor Agreement with the Louisiana Department of Wildlife and Fisheries (LDWF). This agreement outlines the terms of the POLR program and the amount of reimbursement the leaseholder qualifies to receive (upon the delivery of appropriate supporting documentation). In essence, the leaseholder signs the agreement, travels to his leases and performs the rehabilitation activities, submits a reimbursement request along with appropriate supporting documentation, and is then reimbursed for his associated costs (certain limits do apply, i.e. daily vessel rates, etc.).

Leaseholders began signing POLR agreements on May 25, 2007, when LDWF held the first of five public meetings with all interested leaseholders. The final public meeting was held in Baton Rouge at LDWF headquarters on Oct. 18, 2007. At these meetings, interested leaseholders proceeded through three stations in order to:

1. receive general information about the program.
2. check documents showing person has the legal right to sign the agreement for the leaseholder.
3. sign the POLR agreement.

In addition to the five public meetings, LDWF has scheduled numerous one-on-one interviews with participating leaseholders for the purpose of signing POLR agreements.

Jan. 18, 2008 was the final deadline for a leaseholder to sign the POLR Cooperative Endeavor Agreement.

The POLR program continued during fiscal year 2008-2009 with approximately 580 oyster leaseholders participating and over \$3 million in reimbursement assistance claims paid to participating leaseholders (as of June 30, 2009) for documented rehabilitation work including the following totals for each reimbursable activity (*Table 1*). As of the end of the fiscal year, 198 participants still had a funding balance remaining on their contract and signed contract amendments to extend their contract deadline to Dec. 31, 2009.

TABLE 1. POLR reimbursements as of June 30, 2008

ACTIVITY	FY 2008-2009
Sediment/Debris Removal	\$1,193,638.44
Cultch Deposition	\$586,167.55
Remarking/Resurveying	\$209,880.17
Relaying Oysters	\$52,400.00
Bedding Oysters	\$966,857.53
Replacement of Lost/Damaged LDWF Lease Documents	\$4,310.00
Total Reimbursement	\$3,013,253.69

The POLR program as described above is monitored both in the office and in the field. LDWF continues to utilize a staff of four working directly on this program in the office, with additional staff performing administrative and field-monitoring duties. LDWF Marine Fisheries field staff members are trained to assist with and to perform random field inspections of POLR-related rehabilitation activities. Office staff collect call-in reports from the toll-free call center, determine where rehabilitation work will occur, and distribute information electronically to field staff for field monitoring purposes. Field staff performs monitoring with assistance from office staff when needed. On dedicated field monitoring days, field staff will perform field inspections with the main goal of monitoring and documenting POLR activities. During non-dedicated field work, field staff will document POLR activities when a POLR vessel is encountered during the normal course of field work. During fiscal year 2008-2009, approximately 32 percent of all POLR work days reported to the toll-free call center by POLR participants was monitored in the field by LDWF staff.

Native stock oyster hatchery

Although federal funding for this aspect has been reprogrammed, plans continue to be developed to incorporate a native oyster hatchery at the new LDWF Fisheries Research Lab on Grand Isle, La. The construction of this laboratory was completed during fiscal year 2008-2009, and space was allocated for a native stock oyster hatchery. LDWF has received input on hatchery design from researchers, including LSU oyster hatchery researchers. Necessary hatchery equipment is planned to be purchased using other funding sources, and the hatchery should be in full working order by spring 2010.

Oyster Lease Data and Records Management

A contract to develop a data and records management system for the Oyster Lease Survey Section has been issued to Aero-Metric. Several meetings have resulted in the testing of data dump conversions and reviewing samples of documents to determine what type of scanner will be the best for the project.

Public Oyster Resource Reseeding, Rehabilitation and Restoration

Side scan sonar surveys of public oyster grounds

A side-scan sonar survey and water bottom assessment of important areas of the public oyster grounds was completed during fiscal year 2008-2009. Water bottom characteristics and oyster densities in selected areas of Calcasieu and Sabine lakes (Cameron Parish) were determined by a private contractor, ENCOS, Inc. The side-scan sonar and water bottom assessment determined that 3,907.1 acres of reef/shell bottoms exist in the surveyed area of Calcasieu Lake, while the surveyed area of Sabine Lake contains 1,479.5 acres of reef/shell bottoms. Oyster sampling on these bottoms found that almost 1.1 million barrels of oysters were present in Calcasieu Lake, and nearly 700,000 barrels of oysters were present in Sabine Lake. ENCOS provided a detailed report of the water bottom assessment (survey) to LDWF as part of the contract requirements.

Cultch placement on public oyster grounds

Four cultch planting (reef rehabilitation/construction) projects were undertaken during fiscal year 2008-2009 utilizing federal hurricane disaster monies. Project specifications were developed, and bid packages were published during the fiscal year. Low-bid contracts for both Sister (Caillou) Lake (Terrebonne Parish) and Black Bay (Plaquemines Parish) were awarded to Pontchartrain Materials Corporation. The winning bids for both Lake Chien (Terrebonne Parish) and Mississippi Sound (St. Bernard Parish) were awarded to Bertucci Contracting Co. LLC. The permitting process for the rehabilitation projects was also finalized during the fiscal year.

All four projects were accomplished by the contractors with close, daily oversight by LDWF biologists. The Black Bay site consisted of approximately 22,500 cubic yards of crushed limestone spread over 243 acres of water bottoms at a cost of approximately \$1.35 million. A similar project was completed in Sister Lake where approximately 22,600 cubic yards of crushed limestone was placed on 156 acres at a cost of approximately \$1.67 million. The Mississippi Sound cultch plant consisted of approximately 22,300 cubic yards of crushed limestone placed on approximately 45 acres of water bottoms at a cost of approximately \$1.37 million. An additional 22 acres were planted with approximately 11,350 cubic yards of cultch material in the Lake Chien Public Oyster Seed Ground at a cost of just over \$821,000. LDWF biologists, vehicles and vessels participated in these projects. The biological sampling design was developed during fiscal year 2008-2009 to track the development trajectory of oyster resources on the 2009 cultch plants. Sampling is scheduled to begin during the next fiscal year.

Biological Monitoring of Existing Cultch Plants

Biological monitoring of three previous, federally-funded, cultch planting projects (Black Bay, Mississippi Sound and Hackberry Bay) continued during fiscal year 2008-2009, and June 2009 quantitative sampling indicated that the cultch plants were successful in producing harvestable quantities of oysters. On the 200-acre 2007 Mississippi Sound (at Turkey Bayou) cultch plant, sample results indicated approximately 9,800 barrels of seed oysters and 7,200 barrels of market-size oysters were present. Sample results from the 200-acre 2007 Black Bay cultch plant location (near Lonesome Island), indicated the presence of approximately 71,000 barrels of seed oysters and 29,000 barrels of marketable oysters. Biological sampling on the 50-acre 2008 Hackberry Bay cultch plant indicated approximately 3,800 barrels of seed oysters.

JOB 2: REHABILITATING OYSTER BED AND SHRIMP GROUNDS - SUBGRANT OB-SGR-021-2006-01

Underwater Obstructions/Wet Debris Removal

Identifying underwater obstructions on fishing grounds

LDWF worked with other state and federal agencies using data and maps provided by NOAA and others to identify

underwater obstructions which are fouling the fishing grounds or access channels for fishing vessels.

Enhancing state underwater obstruction removal program

LDWF terminated an inter-agency agreement with the Louisiana Department of Natural Resources Office of Conservation in April 2008 for a contract for removal of underwater obstructions within state waters. With the approval of NOAA Fisheries, funding for this task has been re-directed to implement cooperative research programs that enhance LDWF's ability to monitor recovery of Gulf of Mexico fisheries.

Debris removal

LDWF has continued work on the removal of marine debris in state waters under a contract awarded to Crowder-Gulf Joint Venture, Inc. The contract is structured whereby the contractor is assigned debris removal within individual grids measuring four square miles for a fixed price of \$37,100 per grid. The contractor uses side scan sonar equipment to survey all water bottoms within each assigned grid to identify the location of debris contacts (waters less than 3 feet in depth are not surveyed due to sonar's limited effectiveness in shallow waters). Contractor is required to utilize Louisiana resident licensed vessels and crews comprised of Louisiana resident fishermen and charter boat operators to retrieve debris. Marine debris removal work began in July 2007 within portions of Lake Borgne, followed by clean-ups within portions of Lake Pontchartrain (Middle Ground), Lake St. Catherine, Calcasieu Lake and Vermilion, Cote Blanche, Barataria and Caminada bays. Through June 2009, approximately 440 square miles of the Louisiana's shrimp fishing grounds have been cleared of debris at a cost of \$4.081 million.

Coastal habitat rehabilitation and enhancement

Use of Bio-Engineered Reefs for Shore Protection in Coastal Louisiana: Evaluation of Shore Protection and Ecosystem Trade-offs (contracted to LSU AgCenter)

This project compares the effectiveness, sustainability and ecosystem effects of bio-engineered oyster reefs for shoreline protection along eroding medium and low energy sheltered shorelines. Shell oyster reefs were created in Caillou Lake (Sister Lake) in the Terrebonne Basin. The experimental design consists of different reef configurations in medium and low energy sites along the lake shore. In addition, off-bottom oyster racks are also deployed. Data collected at these sites measured: oyster growth rate; cumulative mortality; incidence of *Perkinsus marinus* and MSX infections; oyster condition; spat recruitment and settlement; nekton biomass; relative shoreline position; vegetation; soil percent organic matter; and Chlorophyll. The goal is to evaluate the effectiveness of bio-engineered reefs as shoreline protection measures. The project is in its second year.

Evaluating the effect of marsh management structures on nekton utilization of salt marshes: A novel approach using DIDSON acoustic imaging technology (contracted to LSU AgCenter)

This project examines the effects of water control structures on nekton movement using dual-frequency identification sonar (DIDSON) acoustic imaging technology. The project is specifically investigating the role of tide stage, diel periodicity and season on fine scale temporal and spatial patterns of nekton movement through water control structures in salt marshes. The project has examined a site in Hopedale, La. and several sites on Calcasieu Lake. The goal is to enhance our understanding of how fish move through these water control structures in the hopes that the findings may lead to development of structures that allow for greater movement. The project is in its second year.

Data Management System Improvements

LDWF issued an RFP in June of 2009 for migration of the existing data management system design and implementation. The LDWF legacy system is over 20 years old and is running on an aging platform. The RFP was developed to assist LDWF in cataloging existing data bases, convert all data bases into relational SQL tables and migrate existing SAS code to an updated SAS IT server version that will be able to access the SQL tables.

JOB 3: COOPERATIVE RESEARCH TO MONITOR RECOVERY OF GULF FISHERIES - SUBGRANT CR-M-022-2006-01

Fishery-Independent Monitoring of the Gulf Fishery Stocks

LDWF contracted with the University of New Orleans to collect and enter fishery-independent data within the Lake Pontchartrain system. Sampling is conducted using standard LDWF protocols at six stations located throughout Lake Pontchartrain and include sampling for both finfish and crustaceans. These data are being used by LDWF to evaluate and manage the recovery of the estuarine fisheries following hurricanes Katrina and Rita. These data are also being used to establish a new "baseline" to further assess any changes within this important area. During the reporting period, data were utilized to assess the impacts of the Bonnet Carre' Spillway opening in 2008.

SALT Recreational For-Hire Industry Survey

The survey was administered to 591 holders of a 2008 Louisiana resident charter captain license. The survey is designed to collect vital data on the effects of hurricanes Katrina and Rita and on the current status of Louisiana's charter industry, as well as provide a method of distributing funds appropriated for charter industry relief. Data compiled from the survey will provide a better understanding of the industry status at present, what it needs to survive, the short-term and long-term impacts of the 2005 hurricanes, as well as other factors affecting the industry.

- LDWF reviewed a proposal by the LSU Louisiana Sea Grant office to develop and administer the survey.
- LDWF is currently developing a contract in conjunction with the LSU Louisiana Sea Grant office based

on this proposal and LDWF needs for this program.

- LDWF staff biologists and economists developed a draft survey instrument to be presented to LSU Louisiana Sea Grant office as a foundation for the survey.
- Approximately \$148,200 of the 2006 Emergency Supplemental funds have been set aside for this project to cover costs of survey development and implementation, as well as cooperative research payments to those charter captains that participate.

Pilot Voluntary For-Hire Reporting System

LDWF contracted with BlueFin data to develop the voluntary for-hire reporting software. The software is computer based and designed to collect information on the number of for-hire anglers, residence of anglers, time fishing, fishing gear, area fished and information on each species caught and the disposition of each species. In an effort to make the software more attractive to the for-hire industry, several additional features were added, such as a calendar feature, additional windows to log expenses and a trip summary window. Only the data effort data will be transmitted to LDWF.

A total of eight outreach meetings were held across the state to introduce the for-hire captains to the software. These meetings were also an opportunity for the for-hire industry to provide feedback to LDWF on additional features or concerns they may have concerning the program. To date, 43 for-hire captains have requested and received a free copy of the software.

Cooperative Research Surveys to Monitor Recovery of Gulf Fisheries

LDWF developed a \$15.7 million cooperative research program to monitor the recovery of Louisiana commercial fisheries impacted by hurricanes Katrina and Rita in 2005 and Gustav and Ike in 2008. Funding for this program came from a \$52.9 million federal fisheries disaster assistance grant from NOAA (NOAA Grant Number NA06NMF4540319) through the GSMFC. LDWF will provide compensation to qualified Louisiana resident commercial fishermen and wholesale/retail seafood dealers who submit completed socioeconomic surveys. These surveys were designed by LDWF economists to capture information on the recovery status of the state's commercial fisheries and fishing industries.

In order to be considered eligible to participate in this program, fishermen and dealers must meet one of the following requirements:

- Louisiana resident commercial fishermen who held a valid 2008 resident commercial fisherman's license and had combined trip ticket-reported sales valued at \$5,948 or more during the three-year period Sept. 1, 2005 - Aug. 31, 2008. All saltwater species landings (shrimp, crab, oyster, menhaden and saltwater finfish) are included in total sales, regardless of the fisherman's parish of residence. Freshwater species landings (freshwater finfish and wild-caught crawfish) are included only if the fisherman resided in any of the 26 LDWF-identified hurricane-impacted parishes.

- Louisiana resident wholesale/retail seafood dealers who held a valid 2008 resident wholesale/retail seafood dealer's license and had combined trip ticket reported purchases valued at \$20,756 or more during the three-year period Sept. 1, 2005 - Aug. 31, 2008. All saltwater species landings (shrimp, crab, oyster, menhaden and saltwater finfish) are included in total sales, regardless of the wholesale/retail dealer's parish of operation. Freshwater species landings (freshwater finfish and wild-caught crawfish) are included only if the wholesale/retail dealer operation was located in any of the 26 LDWF-identified hurricane-impacted parishes.

Eligible commercial fishermen and wholesale/retail dealers received information packets during April 2009 including instructions, application forms and a business-reply envelope. Once required forms were returned, participants received an additional packet containing the Cooperative Research Survey, detailed instructions for completing the survey and a self-addressed business reply envelope to be used in returning the completed survey.

Through June 30, program parameters were developed, survey instruments created, and coordination with South Central Planning and Development Commission (SCPDC) and an external accounting firm was undertaken to assure clear lines of communication and duties were developed and that resources were available for all necessary tasks. The SCPDC and affiliated planning districts receive and process all information about this cooperative research program. Any questions concerning eligibility, requests for information, etc. are handled by the SCPDC via telephone, mail or the Web site set up for the program at www.scpdc.org/fisheriesassistance.

LDWF hosted a series of public meetings in coastal communities beginning April 21, 2009 to present information about the program and review instructions on participating in and completing cooperative research surveys.

Review of the surveys for completeness by SCPDC, for consistency by LDWF and payment of surveyed participants began in the months following the time period of this report.

EDRP2 PROGRAM- ASSISTANCE TO COMMERCIAL AND RECREATIONAL FISHERIES-SUB GRANT ACF-025-2007-02

Congress authorized additional funding (\$41.3 million) under the U.S. Troop Readiness, Veterans' Care, Katrina Recovery and Iraq Accountability Appropriations Act (Public Law 110-28) to provide assistance to the Gulf of Mexico commercial and recreational fishing industries affected by hurricanes Katrina and Rita. The appropriation to GSMFC for sub grant to the states was approved in August 2007, and Louisiana received legislative budget authority in December 2007. Under this GSMFC Emergency Disaster Recovery Program (EDRP II), Louisiana's two sub grant awards are:

- Economic assistance to commercial fishers, charter boat operators, vessel owners and wholesale/retail seafood dealers (total to LDWF Office of Fisheries = \$40 million).
- Domestic Product Marketing and Promotion of Louisiana Wild-Caught Seafood (total to LDWF Seafood Promotion and Marketing Board = \$1.3 million).

ASSISTANCE TO COMMERCIAL FISHERIES

LDWF contracted with SCPDC to assist with program administration by identifying and receiving responses from eligible participants who chose to participate in the LDWF economic assistance payment program. LDWF developed and provided eligible Louisiana resident commercial fishermen, commercial fishing vessel license holders, charter boat operators and wholesale/retail seafood dealers with a notification of eligibility packet. The packet was mailed to 8,111 commercial fishing participants and 721 charter guides. The packets included background information about the program and the funding source, and a unique, individual "Qualification for Economic Assistance Payments and Statement of Certification Form" identifying each specific economic assistance payment component the participant is qualified to receive. This form must be completed and returned to SCPDC in order to receive assistance payments. This form also includes a statement certifying that the applicant has not been found in violation of any turtle excluder device (TED) or bycatch reduction device (BRD) regulation by either federal or state law enforcement agencies if Louisiana trip ticket data indicated landings of trawl-caught shrimp during the qualifying period. Packets also contained additional instructions, information on the allocation of funds between and among the various fishing sectors and additional forms including a sample "Board Resolution" which is required if the participant is an incorporated business, a "Trip Ticket Report Application Request Form" for use if a participant wants to request a copy of their personal trip ticket report data, and a federal "Form W-9."

LDWF also entered into contract with Postlethwaite and Netterville, a professional accounting firm, to assist with processing payments and developing federal 1099 forms to qualified participants.

The assistance payment program was developed with strict accountability standards. The following risks were considered in program development, although this list is not intended to include every risk that may be inherent within the process:

- Disbursing funds to an ineligible individual/entity
- Disbursing funds to an incorrect individual/entity
- Fraudulently changing disbursement amount on a payment
- Lack of inadequate, inconsistent or fraudulent documentation
- Disbursement recorded to incorrect category
- Duplicate line item disbursement
- Unauditable controls
- Loss of documentation
- Over- or underpayment to individual/entity

The process addresses disbursements to qualified, eligible individuals/entities (defined as resident licensed charter boat guides, resident commercial fishermen, resident commercial fishing vessel license holders in the shrimp, oyster, saltwater fish and menhaden fisheries, and resident wholesale/retail seafood dealers).

A multi-user data management system was developed to capture the data related to these disbursements. The system has a secured connection between offices using an encrypted VPN connection on a server placed in a secure facility to mitigate potential exposure from unsolicited individuals. This accounting system allows the following:

Payment Processing

1. A user (SCPDC) enters qualification details into the data system from information included in the packets mailed to and returned by potential program participants.
2. Another user (LDWF staff) to review the data entered.
3. Another user (LDWF program staff) to approve the data entered.
4. A user (LDWF staff) to run a report to compile a distribution amount for payment.
5. Another user (LDWF program staff, administration, executive staff) to approve the payment, which includes payment details (bank account data).
6. Another user (Disbursing Agent – Postlethwaite & Netterville) with the ability to execute payment by paper check or through an EFT upload to a financial institution.
7. Periodic progress and financial reports are prepared as required, and other management reports prepared as needed.

SCPDC began certifying qualifying individuals/entities (step 1 in the payment process above) during May 2008, and disbursement of assistance payments to qualifying commercial fishers, commercial fishing vessel license holders, wholesale/retail seafood dealers and charter boat operators who were active in the fisheries during the qualifying period (September 2004 - August 2005) began in late June. LDWF paid direct assistance to eligible program participants through fiscal year 2008-2009 (*Table 2*).

Program activities were disrupted by the passage of Hurricane Gustav, which crossed the central Louisiana coast on Sept. 1, 2008, followed by Hurricane Ike which crossed the Texas coast on Sept. 13. LDWF headquarters in Baton Rouge closed Aug. 29 - Sept. 4, 2008 for Hurricane Gustav and again on Sept. 12, 2008 for Hurricane Ike. LDWF field offices in coastal parishes were closed for varying amounts of time depending on location between Sept. 1-21. All LDWF activities immediately prior to, and for several days after, storm passages were directed toward support of the state's emergency response plan for search and rescue. All LDWF operational activities were severely disrupted during September. In addition, the office of the South Central Planning and Development Commission was commandeered by the Terrebonne Parish Office of Emergency Preparedness for use as their emergency response command center during the response

to Hurricane Ike; SCPDC POLR staff operated in temporary office space from Sept. 11-29, 2008. Postlethwaite & Netterville's office also was closed during early September due to the heavy damage inflicted on Baton Rouge by Hurricane Gustav. Following both storms, LDWF, in conjunction with GSMFC and NOAA Fisheries, began re-evaluating the scopes of work for EDRP1 projects in light of the continuing needs of Gulf of Mexico fisheries still attempting to recover from the impacts of hurricanes Katrina, Rita and Wilma in 2005.

As required by Section 115(c) (1) of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act of 2006, 2 percent of the available appropriation was disbursed to fishermen with a demonstrated record of compliance with turtle excluder and bycatch reduction device regulations. LDWF commercial license and trip ticket report files were used to identify shrimp fishermen who were subject to turtle excluder and bycatch reduction device regulations (who reported sales of trawl-caught shrimp on LDWF trip tickets) in the period between September 2004 and August 2005.

Disbursement of assistance payments to qualifying fishermen continued through this reporting period. To date, 1,126 of the 1,556 potentially eligible shrimp fishermen have been paid a total of \$597,906 for TED/BRD compliance. A summary of payments is included in *Table 2*. A total of \$825,460 was allocated to TED/BRD compliance payments. In order to fully expend the 2 percent of the appropriation as required, the balance of TED/BRD funds (\$227,554) will be divided equally as a supplemental payment among the 1,126 who have already received the initial \$531 TED/BRD payment.

RECREATIONAL FISHERIES ASSISTANCE

A program designed to assist marinas was developed and implemented to provide economic assistance to the saltwater recreational fishing industry for losses incurred due to hurricanes Katrina and Rita. Eligibility criteria for participating in the program are as follows:

- The marina facility must be open to the general public to provide access to the state's waterways for the purpose of accommodating the needs of recreational saltwater fishermen.
- The facility must have been listed on the LDWF Marine Recreational Fishing Statistical Survey (MRFSS) site register during 2004-2005.
- The owners/lessees of the marina must have allowed LDWF biologists to conduct scheduled MRFSS at their facility during 2008.
- The marina facility must be privately owned. (Publicly owned facilities are not eligible).

The award amount is tiered based on predetermined fishing pressure estimated at each facility, and on measured or estimated storm surge at the facility resulting from hurricanes Katrina or Rita. Payment tier levels are:

- Tier 1 - \$11,541.14
- Tier 2 - \$28,599.57
- Tier 3 - \$51,378.57

TABLE 2. Summary of commercial and charter fishery disbursements under the Louisiana Fishing Industry Supplement for Hurricane Recovery – Economic Assistance for Louisiana Commercial and Recreational Fishermen and TED-BRD Compliant Fishermen Program – project to-date through May 31, 2009.

FISHERY	ALLOCATION	TIER	PAYMENT AMOUNT	NUMBER ELIGIBLE	NUMBER OF PAYMENTS TO-DATE	TOTAL AMOUNT OF PAYMENTS TO-DATE
COMMERCIAL	\$26,905,942					
Fishers/Vessels						
Base Payments	\$583,450		\$50	11,669	7,478	\$373,900
Base Payment Balance	\$209,550					
Saltwater Fisheries						
Shrimp Fishers		Tier 1	\$201	2,777	450	\$90,450
		Tier 2	\$854	1,983	786	\$829,230
		Tier 3	\$3,755	992	892	\$4,290,520
Shrimp Vessels		Tier 1	\$222	2,361	453	\$100,566
		Tier 2	\$926	1,684	708	\$812,784
		Tier 3	\$3,673	816	773	\$3,726,633
TED/BRD Payments	\$825,460		\$531	1,556	1,126	\$597,906
TED/BRD Balance	\$277,554					
Shrimp Total	\$11,882,409				5,188	\$10,448,089
Shrimp Balance	\$1,434,320					
Oyster Fishers		Tier 1	\$486	590	111	\$53,946
		Tier 2	\$1,295	421	153	\$272,943
		Tier 3	\$4,505	211	340	\$2,137,240
Oyster Vessels		Tier 1	\$423	523	123	\$52,029
		Tier 2	\$1,458	373	158	\$297,198
		Tier 3	\$4,405	185	0	\$0
Oyster Total	\$3,362,946				885	\$2,812,906
Oyster Balance	\$550,040					
Marine Finfish Fishers		Tier 1	\$65	770	172	\$11,180
		Tier 2	\$262	550	206	\$67,362
		Tier 3	\$3,332	275	240	\$878,160
Marine Finfish Vessels		Tier 1	\$70	629	173	\$12,110
		Tier 2	\$298	475	211	\$77,648
		Tier 3	\$2,933	246	232	\$765,832
Marine Finfish Total	\$2,017,768				1,234	\$1,812,292
Marine Finfish Balance	\$205,476					
Menhaden Vessels		Tier 1	\$35,970	*	19	\$683,430
		Tier 2	\$100,414	*	8	\$1,091,072
		Tier 3	\$124,931	*	9	\$2,351,829
Menhaden Total	\$4,090,357				36	\$4,056,047
Menhaden Balance	\$34,310					
Remaining						
Crab Fishers		Tier 1	\$259	1,170	221	\$57,293
		Tier 2	\$1,020	836	323	\$413,117
		Tier 3	\$3,136	418	371	\$1,637,965
Crab Total	\$2,466,160				915	\$2,108,321
Crab Balance	\$357,839					
Freshwater Fisheries						
Freshwater Finfish Fishers		Tier 1	\$57	480	64	\$3,648
		Tier 2	\$193	343	96	\$24,000
		Tier 3	\$785	172	120	\$124,200
Freshwater Finfish Total	\$228,819				280	\$151,848
Freshwater Finfish Balance	\$76,971					

FISHERY	ALLOCATION	TIER	PAYMENT AMOUNT	NUMBER ELIGIBLE	NUMBER OF PAYMENTS TO-DATE	TOTAL AMOUNT OF PAYMENTS TO-DATE
Freshwater Fisheries						
Wild-caught Crawfish Fishers		Tier 1	\$137	624	65	\$8,905
		Tier 2	\$369	446	127	\$64,262
		Tier 3	\$936	223	170	\$249,730
<i>Wild-caught Crawfish Total</i>	<i>\$464,572</i>				<i>362</i>	<i>\$322,897</i>
<i>Wild-caught Crawfish Balance</i>	<i>\$141,675</i>					
WHOLESALE/RETAIL DEALERS	\$1,216,475					
Base Payments	\$63,400		\$100	634	394	\$39,400
<i>Base Payment Balance</i>	<i>\$24,000</i>					
Wholesale/Retail Dealers		Tier 1	\$195	441	72	\$14,040
		Tier 2	\$718	312	98	\$89,474
		Tier 3	\$5,737	158	136	\$904,400
<i>Wholesale/Retail Dealers Total</i>	<i>\$1,216,475</i>				<i>306</i>	<i>\$1,047,314</i>
<i>Dealers Balance</i>	<i>\$169,161</i>					
RECREATIONAL FISHERY	\$529,586					
Charter Boat Guides			\$735	721	443	\$325,605
<i>Charter Boat Total</i>	<i>\$529,586</i>				<i>443</i>	<i>\$325,605</i>
<i>Charter Boat Balance</i>	<i>\$203,981</i>					
TOTAL	\$26,905,942				17,127	\$23,459,219
TOTAL REMAINING BALANCE	\$3,446,723					

- Tier 4 - \$87,574.00
- Tier 5 - \$136,093.81

Owners/lessees must complete and submit a socioeconomic survey for payment.

Through the reporting period, a total of 60 marinas were pre-qualified to participate in the assistance program and 59 marinas have been paid a total of \$3,315,366. One "hostile" facility has returned a Memorandum of Understanding certifying that they will be cooperative in the MRFSS program and was awarded a base payment of \$5,770.57. An additional 10 facilities requested to be evaluated for eligibility. It was determined that seven of the 10 were eligible to participate in the program. Two facilities have requested reconsideration of their tier status.

RECREATIONAL ACCESS – REPAIRS TO ELMER'S ISLAND ROAD

LDWF worked in cooperation with the Louisiana Department of Transportation and Development (DOTD) to restore access to an important coastal waterfront through the repairs of a three-mile limestone road. This road was severely damaged during Hurricane Katrina, making it impassible due to large breaches. The repair of these breaches has allowed for vehicle passage and access to the important coastal waterfront.

BAITFISH DISEASE INVESTIGATIONS

LDWF worked in cooperation with the LSU School of Veterinary Medicine to develop aquaculture protocols for

cocahoe minnows (*Fundulus grandis*) that would ensure a steady supply of healthy minnows, uniform in size, for the bait industry.

PROVIDING MARINE BAITFISH TO LOUISIANA ANGLERS

Working in cooperation with LDWF, the LSU AgCenter will develop parameters and protocols for holding marine bait fishes to provide a consistent source of cocahoe minnows (*Fundulus grandis*) to Louisiana anglers.

MARINA DATABASE UPDATE

LDWF worked in cooperation with LSU to begin re-designing the existing static marina, boat launch and commercial facility database created by LOSCO into an updatable database. The database will be available to the public online and will provide information on marinas, boat launches and commercial facilities such as operational status, location, ramp information, etc.

HATCHERY REPAIRS & FISH STOCKING

LDWF completed reconstruction of 16 one-acre ponds this year, and repair work commenced on the last 16 ponds. The new construction is funded by the Fishing Industry Supplement for Hurricane Recovery Program. Reconstruction work on the Booker Fowler Hatchery should be complete this fiscal year.

The goals and objectives of the Inland Fisheries Division include providing the public with a quality fishing experience and managing for big bass. In part, the management

for big bass is reliant upon the stocking or incorporating of the Florida largemouth bass gene into our native black bass environment. In fiscal year 2008-2009, LDWF Fish Hatcheries, in assistance with other partnerships such as U.S. Fish and Wildlife Service, Cross Lake Fish Hatchery, Rockefeller Refuge and other local and private associations, addressed stocking needs for 77 diversified water bodies throughout the state of Louisiana.

Summary of Fish Species Stocked Fiscal Year 2008-2009

Florida Largemouth Bass	4,579,251
Bluegill	332,538
Red Ear	35,216
Striped Bass	317,453
Hybrid Striped Bass	487,951
Channel Catfish	138,007
Paddlefish	114,458
Black Crappie	9,814
Triploid Grass Carp	21,300
Total	60,053,988

The following is an alphabetical listing of the water bodies stocked in fiscal year 2008-2009: Amite River Complex; Bass Pro Shop Pond; Bayou D'Arbonne; Bayou Long; Bayou Liberty; Beaver Park Pond; Big Alabama Bayou; Big Bayou Pigeon; Black Bayou (Bossier); Blind River Complex; Buhlow Lake; Caddo Lake; Caney Lake; Caney Creek Reservoir; Cane River; Chatham Lake; Chicot Lake; Claiborne Lake; Cocodrie Lake (Evangeline Par.); Corney Lake; Cross Lake; Dauterive Lake Area; Drainage Canals of New Orleans; Dubisson Lake; False River; Fort Polk Ponds; Girard Park Pond; Grand Bayou Reservoir; Grassy Lake; Henderson Lake; Iatt Lake; Indian Creek Lake; Jackson War Veteran's Pond; Kepler Lake; Kincaid Lake; Lake Arthur; Lake Bistineau; Lake Bruin; Lake Concordia; Lake Fausse Point; Lake Lafourche; Lake Louis; Lake St. John; Lake Verrett; Lower Sunk Lake; Mermentau River; Middle Pearl River Complex; Mill Creek Lake; Moore Park Lake; Nantachie Lake; Old Bay Courtableau; Old River Raccouri; Pearl River Complex; Poverty Point Lake; Red River Pools #1,2,4,5; Rockefeller Refuge; Saline Lake; Sibley Lake; Southern Univ. Pond; Spanish Lake; Spring Bayou; Tangipahoa River Complex; Tchefuncte River; Three Rivers Lakes; Tickfaw River Complex; Toledo Bend Reservoir; Turkey Creek Lake; Two O'Clock Bayou; Upper Grand River; Veteran's Park Pond; West Pearl River Complex.

RECREATIONAL ACCESS – ARTIFICIAL REEF DEVELOPMENT

I-10 Twin Span Reefs

LDWF is working with the Louisiana DOTD to make beneficial use of concrete debris resulting from the destruction of the I-10 Twin Span bridges by Hurricane Katrina to create two artificial reefs in Lake Pontchartrain. The project, which is scheduled for implementation beginning in 2010, will provide habitat for marine fisheries

species and opportunity for recreational fishers. LDWF allocated \$915,000 towards the development of two new inshore reefs in Lake Pontchartrain. Approximately 22,000 tons of concrete bridge material from 78 spans will be deployed at the two artificial reefs.

Lake Pelto Reefs

The 2005 and 2008 hurricanes degraded the established and well known Bird Island and Point Mast artificial reefs in Lake Pelto. LDWF allocated \$670,000 to restore the habitat which in turn would provide recreational opportunities. After performing some preliminary surveys of the two reefs a decision was made to enhance the Point Mast Reef and to develop a new Bird Island II reef adjacent to the original Bird Island Reef. Approximately 8,852 tons of #57 limestone are scheduled for deployment to create the two reef sites in November 2009.

ECONOMIC DISASTER RELIEF FOR LOUISIANA DUE TO HURRICANES GUSTAV & IKE

The 2008 hurricanes Gustav and Ike impacted the Louisiana coastline and its fisheries. The Secretary of Commerce declared a fishery resource disaster in the Louisiana Gulf of Mexico on Sept. 17, 2008 due to the devastation of hurricanes Gustav and Ike. The passage of these storms has severely impacted the commercial fishing industry through revenue and infrastructure losses. LSU AgCenter has estimated a maximum revenue loss to Louisiana fisheries as a result of hurricanes Gustav and Ike in September 2008 to be \$70.6 million. The maximum estimated infrastructure loss determine by LSU AgCenter associated with these hurricanes is \$84.1 million. (These values were estimates as of Sept. 24, 2008).

The U.S. Congress appropriated \$40 million to Louisiana for fisheries disaster assistance to the commercial fishing industry under sections 308(b) and 308 (d) of the Inter-jurisdictional Fisheries Act (16 U.S.C. 4107, NOAA Grant NA09NMF4520024). The appropriated funds are vital to the recovery of these important fisheries devastated by the hurricanes. These funds are being used to provide partial cost reimbursement for uninsured or underinsured commercial fisheries infrastructure (docks, ice houses, vessels, fishing gear, etc.) that were damaged during the storms.

In June 2008, the Office of Fisheries launched the \$30 million Federal Fisheries Reimbursement Program to distribute the appropriated funds to qualified commercial fishermen and wholesale/retail dealers. In order to qualify for the program, individuals must have held a 2008 resident Louisiana commercial fishing or wholesale/retail dealer license and must have reported sales or purchases of saltwater species on LDWF trip tickets during Sept. 1, 2005 - Aug. 31, 2008 (and received by LDWF by Nov. 30, 2008). Eligible participants will receive an initial payment of 50 percent of the participant's eligible reimbursement amount. The remaining 50 percent of the reimbursement will be issued after the participant submits acceptable invoices/receipts documenting the use of the entire initial payment on eligible items.

ACCESS, OPPORTUNITY & OUTREACH

The Access, Opportunity and Outreach of the Office of Fisheries accomplishes its objective by providing and maintaining artificial reefs, responding to threats from invasive species, managing public access sites and engaging and supporting the resource's beneficiaries.

ARTIFICIAL REEF PROGRAM

Artificial reefs provided by Access, Opportunity and Outreach provide resource habitat benefits while giving anglers rich and abundant fishing areas in otherwise dormant conditions. The Louisiana Artificial Reef Program (LARP) was founded in 1986 through the cooperative efforts of the Louisiana State University Coastal Fisheries Institute (LSUCFI) and the Louisiana Department of Wildlife and Fisheries (LDWF). Resultant legislation called for the development of a State Artificial Reef Plan and provided for an artificial reef program in Louisiana. Act 100 of the 1986 Legislature established that LDWF would operate the program with logistical support from LSUCFI. LDWF and LSUCFI produced a plan in the fall of 1986 that was accepted by the Louisiana Legislature. The plan outlined the siting, permitting and monitoring requirements of the program.

LARP was established to use obsolete oil and gas platforms to provide habitat for Louisiana's coastal fishes and fishing opportunities for recreational and commercial harvesters. Federal law and international treaty require oil exploration companies to remove these platforms one year after production ceases. LARP has provided an opportunity for oil companies to contribute to maintenance of fisheries habitat. Since its inception, 61 oil and gas related companies have participated in the offshore program and donated the jackets of 223 oil and gas structures. During fiscal year 2008-2009, 23 obsolete oil and gas structures were accepted into the offshore artificial reef program. Previously deployed offshore reef materials include 40 armored personnel carriers and one offshore tug.

Three deep-water oil and gas platforms have been accepted into the deep-water reef program. Even though these reefs are in water depths in excess of 400 feet, the structure establishing the reef must maintain sufficient profile in the water column to be accepted into LARP. The deployments of the platforms undergo a non-explosive partial removal process which preserves the established biological community with minimal disturbance, maintains fishing opportunities for residents and saves

money on the decommissioning of the platform. LARP also manages a Special Artificial Reef Sites (SARS) program, specifically aimed at establishing artificial reefs under unusual and/or exceptional circumstances, including occurrences such as natural and man-made catastrophes outside LARP's nine artificial reef planning areas. The oil and gas industry in the Gulf of Mexico continues to recover from the devastation of the 2005 and 2008 hurricane seasons. Industry has sought alternatives in cleanup activities to reduce the cost of removal and have petitioned LARP to accept structures at the location they were destroyed. LARP attempts to minimize negative impacts and the cost of removing these structures, while maintaining and enhancing fisheries habitat. Industry has completed several approved SARS projects and continues to work on the remaining approved SARS projects related to the 2005 hurricanes. A moratorium is currently in effect on future SARS proposals while LARP evaluates the current SARS process.

In addition, the reef program has developed 22 inshore reefs, primarily low-profile reefs composed of shell and limestone. LDWF constructed eight reefs, and 14 others were constructed in association with public conservation and private groups. In working with one of these groups, LDWF constructed four reefs using reef balls. Reef balls have been deployed successfully in tropical and oceanic environments, but this was the first attempt to deploy in an estuarine setting.

AQUATIC PLANT RESEARCH & CONTROL PROGRAM

Our natural resources are constantly under attack from invasive species giving threat to healthy habitat and access opportunities for the beneficiaries. Programs driven by Access, Opportunity and Outreach regulate, control and eradicate threats from invasive species.

The flagship of these initiatives is the nuisance aquatic vegetation control program through which we maintain safe and usable fishing and boating access. Left unchecked, nuisances such as giant salvinia would choke the state's abundant fresh water lakes making them inaccessible and threatening the natural habitat of our valuable aquatic species. Through an aggressive aquatic plant control program, LDWF utilizes a variety of management options including herbicides, drawdowns and biological controls.

During fiscal year 2008-2009, the Aquatic Plant Research and Control Program (APRCP) provided substantial benefits to the citizens of Louisiana. Responsibilities included monitoring water bodies for non-native and invasive aquatic vegetation, providing technical assistance and continually investigating more effective and environmentally safe methods of controlling these nuisance plants. Aggressive treatment of affected waters continued in an effort to restore and improve the aquatic habitat and the natural balance of plants and fish. Control of nuisance plant species is also necessary to provide boating access to many public waterways.

To prevent habitat degradation from exotic aquatic vegetation and to maintain angler and boater usage throughout the state, aquatic herbicides are used to treat nearly a third of the state's fishable waters annually. LDWF crews throughout the state treated 149 water bodies during fiscal year 2008-2009.

A total of 68,433 acres were treated throughout the state. Of that total, 215 acres were sprayed below the saltwater line.

Biologists continue to provide advice and technical assistance to private and municipal pond owners concerning aquatic vegetation management issues. This popular extension program also provides aquatic plant identification assistance for the public upon request.

Research projects of APRCP include an evaluation of new herbicides to determine their effectiveness for use in aquatic weed control.

LDWF utilizes both conservation and federal funds to control water hyacinth (*Eichhornia crassipes*). However, in the course of treating water hyacinth with the herbicides 2, 4-D and glyphosate, emergent plants such as alligatorweed (*Alternanthera philoxeroides*), primrose (*Ludwigia spp.*), American lotus (*Nelumbo lutea*) and several others of minor importance were also sprayed. Other troublesome submersed and floating plants not susceptible to control with 2, 4-D and glyphosate, such as hydrilla (*Hydrilla verticillata*) and two species of salvinia (*Salvinia minima* and *S. molesta*), require more expensive herbicides. Hydrilla is controlled with both pellet and liquid forms of fluridone, and the salvinia is treated with a mix of diquat and glyphosate and a new herbicide called penoxsulam. State funds in the Aquatic Plant Control Fund were used to purchase herbicides to address infestations of these plants. Statewide, giant salvinia is now present in many public waterways that are heavily timbered and difficult to access. Spray crews spend a great deal of time searching for and treating these troublesome infestations.

Fifteen percent of the Aquatic Plant Control Fund was used to fund research into aquatic plant control by the LSU AgCenter. LSU continued its research into biological control of salvinia using the salvinia weevil (*Cyrtobagous salviniae*). Research efforts are currently focused on rearing a sufficient number of weevils to release on infesta-

tions of salvinia. Biological control of giant salvinia using the salvinia weevil is recognized as the leading and most often used control strategy in all areas of the world due to its highly effective nature. Approximately 1,812,860 salvinia weevils were released at 23 sites in 12 waterbodies for giant salvinia and six sites in five waterbodies for common salvinia. A large majority of these weevils were released into Lake Bistineau in an effort to establish a surviving population that may help to reduce the large amount of giant salvinia present.

In addition to using herbicides, certain nuisance aquatic plants can be controlled by manipulating water levels (drawdown). Thirteen lakes were drawn down during fiscal year 2008-2009 for aquatic plant control.

As part of the aquatic habitat management program, crews throughout the state cut and remove logs and trees that have fallen into waterways and obstruct navigation. A total of 114 water bodies were cleared of logs and trees throughout the year, taking 1,158.5 man-hours of work.

PUBLIC BOATING & FISHING ACCESS

Access, Opportunity and Outreach also creates, enhances and restores Louisiana's inventory of public boating and fishing access sites. Access sites, such as marinas, boat launches and fishing piers, serve as doorways to the state's natural resources. In a cooperative effort, LDWF assists local government entities requesting financial assistance in the development and construction of boating and fishing access facilities. To accomplish this, LDWF obligates a portion of its federal funding and Sport Fish Restoration (SFR) funds to match up to 75 percent of the total costs of these projects. This program funds both freshwater and saltwater projects including the construction of boat ramps, parking areas, docks, bulk heading and fishing piers. A total of 79 projects are complete to date, and another 16 are in various stages of either planning or construction.

Tax revenues from these sites provide economic benefit to the state from consumer use by owners and recreational users. Not strictly limited to site selection and construction oversight duties, the Office of Fisheries also works in concert with local municipalities, media channels and landowners in the marketing and promotion of the sites.

Issues related to past hurricanes continue to adversely affect progress on boat ramp construction. Some of the issues that local and state government sponsors are facing include priority spending and higher construction costs.

Public access facilities for boating and fishing currently under construction or in the planning stage:

- Reserve Boat Launch (Phase II)
- Reserve Boat Launch (Phase III)
- Golden Meadow Public Boat Launch
- Burns Point Park Boat Launch
- Jessie Fontenot Boat Launch (Phase III)
- South Houma Fire Station Boat Launch
- Texas Gulf Road Boat Launch

- North Pass
- Bayou Macon
- Tensas Basin
- Baker's Cut-Off
- Gateway Landing, Washington
- Leonville Boat Launch
- Venice Marina
- Empire Marina
- Lake Claiborne Boat Lane Marking

Projects completed during fiscal year 2008-2009:

- Slidell Marina, Tier I
- Sherburne Wildlife Management Area Boat Launch
- Airport Boat Landing

OUTREACH

Through outreach efforts, LDWF advises beneficiaries on stewardship and best practices in preserving the unique nature of the state's natural resources. Via a strong presence at youth recreational events, industry related expos and other state sponsored events, LDWF strives to align its efforts with the desires of citizens and foster a community sense of resource and habitat stewardship.

The Aquatic Outreach Program (F-136-EO) is designed to inform the public about the SFR Program to show that it is a vital funding source for aquatic access, resource enhancement and management projects in Louisiana. LDWF participated in 16 public events throughout the year to inform attendees of the department's various SFR projects and the importance of purchasing a fishing license. An assortment of printed materials was distributed at these events, as well as an SFR brochure, designed specifically to highlight the funding cycle and projects SFR funding supports.

In addition to increased participation in public events, other avenues of public education were utilized including an informative lobby display in the LDWF headquarters building in Baton Rouge. The Fisheries Research Lab personnel provided samples and educational facilities for outreach staff. Lab personnel participated in the WET-SHOP program, a "hands-on" environmental program for teachers, and assisted the Pontchartrain Institute for Environmental Sciences with their summer educational program. The new lab facility has a classroom and lab space for instruction and hands-on learning. School and community groups have access to the lab for various educational opportunities.

Through participation in outreach events and distribution of educational materials, the Aquatic Outreach Program message reached over 10,000 Louisiana citizens.



HABITAT STEWARDSHIP & RESOURCE MANAGEMENT

Sustainable and abundant fishery resources in Louisiana, the "Sportsman's Paradise," are the key function of the Office of Fisheries. Louisiana's fishery resources, including habitat, benefit all constituent groups (commercial and recreational users and visitors) in Louisiana, across the Gulf Coast and throughout the nation. The Constitution of 1974 provides the framework to protect and enhance habitat and to ensure sustainable commercial and recreational fisheries. The Office of Fisheries collects the basic ecological data needed to efficiently and effectively manage fisheries resources to benefit constituent groups. Habitat stewardship and resource management provides opportunities for the public to access Louisiana's natural resources.

HABITAT MANAGEMENT

The Habitat Management Program's purpose is participation in federal, state and local planning and permitting efforts to help conserve, protect and enhance healthy, viable habitat for fisheries resources. Program activities include:

- Review and comment of coastal use permits and consistency applications within the coastal zone
- Oversight of all permitted activities within the state's public oyster grounds
- Planning and comment activities associated with the state's coastal restoration activities and with large civil works projects such as hurricane protection levee systems and creation of reservoirs
- Participation in the interagency advisory panels for the state's two freshwater diversion structures
- Response and damage assessment activities resulting from un-permitted discharges of oil or hazardous material
- Regulation of seismic exploration activities

COASTAL USE PERMIT REVIEW

In 2009, the Office of Fisheries reviewed approximately 176 new coastal use permit applications (along with assessments and waivers) within the public oyster seed grounds and approximately 100 habitat projects for a total of approximately 276 projects. We collected \$1,248,671.58 in compensation for impacts to the public oyster seed grounds.

COASTAL WETLANDS

In 2009, the Research and Assessment Division continued to work with state and federal agencies to develop strategies for slowing the rate of coastal wetlands loss in Louisiana. Following hurricanes Katrina and Rita in 2005, the state of Louisiana embarked on a joint coastal planning process that includes both hurricane protection and coastal wetlands restoration. U.S. Army Corps of Engineers (USACE) received funding through a series of supplemental appropriations to provide "100-year level flood protection" in the New Orleans vicinity. USACE put forward individual environmental reports in lieu of Environmental Assessments or Environmental Impact Statements to support this goal. Division staff worked to coordinate and review these hurricane reaches and understand their impacts on estuarine and coastal environments. In addition, there were a number of coastal restoration projects moving through the formulation and development process. They include:

- Mississippi River Gulf Outlet (MRGO) restoration and the Violet Diversion studies
- Reauthorization studies of the Caernarvon and Davis Pond Freshwater Diversion projects
- The Morganza to the Gulf hurricane protection levee.
- Deepening of the Houma Navigation Canal
- Donaldsonville to the Gulf hurricane protection levee
- Planning for the Port of Iberia Channel Deepening Project
- The Southwest Louisiana Coastal Plan
- The Calcasieu Dredged Material Management Plan
- The Sabine-Neches Waterway plan

Division staff also participated in evaluation of 10 Coastal Wetlands Planning, Protection and Restoration Act projects for Priority List 18 and 19. Up to four of the 10 projects may be funded annually for engineering and development activities.

CAERNARVON & DAVIS POND FRESHWATER DIVERSION PROJECTS

Extensive fisheries resource monitoring programs continued for both the Caernarvon and Davis Pond Freshwater Diversion projects. The Caernarvon Project has been

operational for 18 years, and LDWF personnel have monitored its effects on the fish, wildlife and vegetation populations in the basin throughout its operation. The Davis Pond Project came on-line in July 2002. Ongoing maintenance designed to address problems with flooding in the ponding area north of Lake Cataouatche continued to limit the amount of freshwater diverted through the Davis Pond structure. Research and Development Division staff provide input into the operation of both structures.

OIL SPILLS & HAZARDOUS MATERIALS

LDWF's Oil Spill Task Force continued in 2009 to develop and implement plans to protect and restore the state's wildlife, fishery and habitat resources from the adverse effects of oil spills. During this fiscal year, state and federal trustees worked on approximately 20 ongoing oil spill assessment/restoration plans. In addition, the trustees continued to work on developing a way to estimate amounts and impacts of oil spilled as a result of hurricanes Katrina and Rita.

LDWF participates with other state and federal agencies in planning restoration of hazardous materials sites. Two planning activities continued in 2009: Bayou Trepagnier in St. Charles Parish and Calcasieu River in Calcasieu Parish.

LDWF also evaluated and responded as needed to approximately 3,000 oil spill notifications received from Louisiana State Police. These notifications cover a range of hazardous emissions and chemical spills, as well as oil spill related incidents.

SEISMIC SECTION

The LDWF Seismic Section was created in 1939 specifically to protect oysters, fish, shrimp and other wildlife from the effects of seismic exploration. Seismic exploration uses energy waves to generate a profile of sub-surface reflective layers that help define potential oil and gas traps. The energy waves can be produced by explosives detonated below the ground, by air guns that emit a powerful burst of air just above the surface or by large vibrating pads placed on the surface. These projects can occur in sensitive wetlands, water bodies and uplands. Seismic agents monitor geophysical companies to protect Louisiana's fish and wildlife resources by ensuring compliance with LDWF seismic rules and regulations. During 2009, the Seismic Section monitored 24 projects throughout the state.

LAKE MANAGEMENT

Fisheries managers annually estimate relative abundance, size class structure and species composition of fish population and physiochemical characteristics of the water in 90 to 100 lakes, rivers and streams. All lakes are sampled in a similar manner so that data from different water bodies is comparable.

Electrofishing sampling is conducted in both spring and fall to provide a measure of population including abundance, size distribution, age structure and genetic composition. Sampling includes only largemouth bass in the

fall; crappie are included in the spring. A forage sample of all species is also collected in the fall. Sampling sites are predetermined and selected to represent available aquatic habitats within the water body. Sampling protocol is standardized to the extent possible to allow for comparison of data over time.

Gill net samples are taken during winter, primarily to determine relative abundance and length frequencies of gizzard shad, striped bass, hybrid striped bass and commercial and rough fish species. Monofilament nets with mesh sizes from 2.5 to 4 inches (bar mesh) are set at dusk and gathered at sunrise. Each fish taken is identified, weighed and measured. This sampling method provides gear selectivity, species composition and length frequency information. Nighttime shoreline seine sampling measures reproductive success of the sunfishes, including bass and bluegill. Year-class strength, species composition and prey availability are provided by this sampling effort. Sampling is conducted during spring and summer and consists of one quadrant haul at each sample site using a 25-by-6-foot seine.

Nets are used to measure relative abundance and length-frequencies of crappie and other sunfish. Species composition, growth rate and length weight relationships are determined. Sampling is conducted at predetermined sites for a minimum of 48 hours each, with two nets at each station.

Water quality samples are taken at all sampling stations. Water temperature, pH, dissolved oxygen concentration, conductivity, oxidation/reduction potential and water depth are measured.

Creel samples were conducted on five water bodies in 2009. This sampling method puts the fisheries manager in direct contact with the fishermen. Information collected includes species sought and species caught, distance traveled, time fished, number caught and released and a measurement of all fish harvested.

The Office of Fisheries also monitors others fish species, including paddlefish and sturgeon. Biologists continue to collect data on relative abundance, habitat requirements, movements and population estimates. Tagging, age and growth population characteristics of pallid and shovelnose sturgeon will continue to be collected in 2010. The division has tagged and handled over 500 sturgeons, including 32 endangered pallid sturgeons. Approximately 10 satellite receiver stations have been established along reaches of the Mississippi River to monitor movement of pallid sturgeon.

Completion of Fisheries Management Plans for the following lakes occurred in fiscal year 2008-2009:

- Bonne Idee Lake
- Poverty Point Reservoir
- Chatham Lake
- Black/Clear Lake
- Lake Bruin
- Lower Sunk Lake

- Anacoco Lake
- New Orleans City Park Lake

Giving technical advice to owners of ponds and small lakes is also part of the responsibility of the Office of Fisheries. During fiscal year 2008-2009, division biologists made site visits, assisting residents of the state on problems ranging from construction and stocking requirements to harvest and disease information. Biologists also answered over 2,500 phone inquiries about various pond-related problems.

The Louisiana Cooperative Fish Disease Project, which the division heads with the Louisiana State University (LSU) Animal Diagnostic Lab within the School of Veterinary Medicine, provides support to private pond owners. In fiscal year 2008-2009, 148 cases were submitted as part of this project.

The Inland Fisheries Division is also responsible for conducting investigations into fish kills in freshwater. Area impact and losses are recorded for each kill. Naturally-occurring dissolved oxygen depletion, as well as saltwater intrusion, was indicated as the cause of most kills. Continued investigations into the Largemouth Bass Virus problem were conducted. Louisiana Department of Wildlife and Fisheries (LDWF) personnel assisted in administering a grant to LSU to develop non-lethal methods for detection of this disease.

In fiscal year 2008-2009, the Inland Fisheries Division collaborated with state and federal agencies to conduct sampling for an "Ecological Assessment of the Mississippi River in Louisiana." The goal of the cooperative work was to improve the science of the Mississippi River in Louisiana to support river assessment and management by Louisiana Department of Environmental Quality (LDEQ) and other state management agencies.

In cooperation with the Department of Health and Hospitals (DHH), LDEQ and the Department of Agriculture and Forestry, the Office of Fisheries developed a protocol for issuing public health advisories for chemical contaminants in recreationally caught fish and shellfish.

Inland Fisheries biologists worked through the Atchafalaya Basin Technical Group in the consideration of proposed projects in the development of the Atchafalaya Basin Annual Plan. They also initiated involvement in the process for Federal Energy Regulatory Commission relicensing process for the Toledo Bend Hydroelectric Project located in DeSoto, Sabine and Vernon parishes.

In addition, inland biologists initiated a statewide project to determine growth and mortality rates of largemouth bass and crappie populations. The extensive data collected will be used in consideration of existing and proposed harvest regulations.

SHELLFISH, MOLLUSC & FINFISH MANAGEMENT

Fisheries management programs within the Marine Fisheries Division include Shellfish Management, Mollusc Management and Finfish Management. In addition to headquarter operations, division responsibilities are conducted through seven coastal study areas (*Figure 1*).

SHELLFISH MANAGEMENT

The Marine Fisheries Division continued its long-term trawl sampling program throughout coastal Louisiana. Fishery biologists collected 773, 6-foot trawl and 1,379, 16-foot trawl samples from both inshore and offshore waters in each of seven coastal study areas. Data from these samples were used to recommend season frameworks for both the fall and spring inshore shrimp seasons and winter territorial sea shrimp seasons. In addition, these same data were used to recommend season extensions and special seasons and to provide recruitment indices for Gulf menhaden and blue crabs.

SHRIMP

Shrimp are Louisiana's most valuable commercial fishery, and Louisiana continues to lead the nation in shrimp landings. Louisiana shrimp landings in 2008, the most recent year's data available, totaled approximately 57.8 million pounds (all species combined/heads-off weight) and accounted for \$133.5 million in dockside sales. Brown shrimp landings comprised approximately 27 percent of 2008 landings and have continued to decline over the past five years, measuring 15.8 million pounds below the long-term mean (1976-2008). Conversely, white shrimp landings over the past five years continued to exceed the long-term mean. Although declining 0.4 million pounds from the previous year, 2008 white shrimp landings measured 41.1 million pounds or about 10 million pounds above the long-term mean.

Due to significant differences in patterns of shrimp recruitment, growth and immigration between geographic areas, the Louisiana coast has been divided into three Shrimp Management Zones to better manage the resource (*Figure 2*).

Shrimp Management Recommendations

Based upon analysis of historic data, as well as data generated from biological sampling conducted by LDWF, the following management practices were implemented during the report period: sample data were used to set the opening and closing dates of the 2008 Spring Inshore Shrimp Season, set opening and closing dates of the 2007 Fall Inshore Shrimp Season, extend inshore seasons in portions of inside waters and close and then reopen to shrimping portions of Louisiana outside territorial waters.

Shrimp Management Zone 1

2008 - Spring Inshore Shrimp Season

- Opened on June 2, 2008 at noon including the open waters of Breton and Chandeleur Sounds as described by the "double-rig line" in LA R.S.56:495.1(A) 2.
- Closed July 1, 2008 at 6 p.m. except for those portions of Zone 1 including Lake Pontchartrain,

Rigolets Pass from the mouth of Lake Pontchartrain extending eastward to the western side of the CSX Railway Bridge, Chef Menteur Pass from the mouth of Lake Pontchartrain southeasterly to the mouth of Lake Borgne, the Mississippi River Gulf Outlet beginning at its juncture with the Industrial Canal, that portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 09 minutes 39.6 seconds north and longitude 89 degrees 30 minutes 00 seconds west; thence southeasterly to a point at latitude 30 degrees 03 minutes 12 seconds north and longitude 89 degrees 21 minutes 30 seconds west; thence northeasterly to the most easterly point on Isle Au Pitre at latitude 30 degrees 09 minutes 20.5 seconds north and longitude 89 degrees 11 minutes 15.5 seconds west, which is a point on the double-rig line as described in LA R.S. 56:495.1(A)2; thence northerly along the double-rig line to a point on the Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 12 minutes 37.9056 seconds north and longitude 89 degrees 10 minutes 57.9725 seconds west; thence westerly along the Louisiana-Mississippi Lateral Boundary to the point of beginning and the open waters of Breton and Chandeleur Sounds as described by the "double-rig line."

- Closed on Saturday, July 12 at 6 p.m. except for the following portions of Zone 1: That portion of Mississippi Sound beginning at a point on the Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 09 minutes 39.6 seconds north and longitude 89 degrees 30 minutes 00 seconds west; thence southeasterly to a point at latitude 30 degrees 03 minutes 12 seconds north and longitude 89 degrees 21 minutes 30 seconds west; thence northeasterly to the most easterly point on Isle Au Pitre at latitude 30 degrees 09 minutes 20.5 seconds north and longitude 89 degrees 11 minutes 15.5 seconds west, which is a point on the double-rig line as described in LA R.S. 56:495.1(A)2; thence northerly along the double-rig line to a point on the Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 12 minutes 37.9056 seconds north and longitude 89 degrees 10 minutes 57.9725 seconds west; thence westerly along the Louisiana-Mississippi Lateral Boundary to the point of beginning and the open waters of Breton and Chandeleur Sounds as described by the double-rig line.
- The open waters of Mississippi, Breton and Chandeleur sounds remained open to shrimping until March 31, 2009 at 6 a.m.

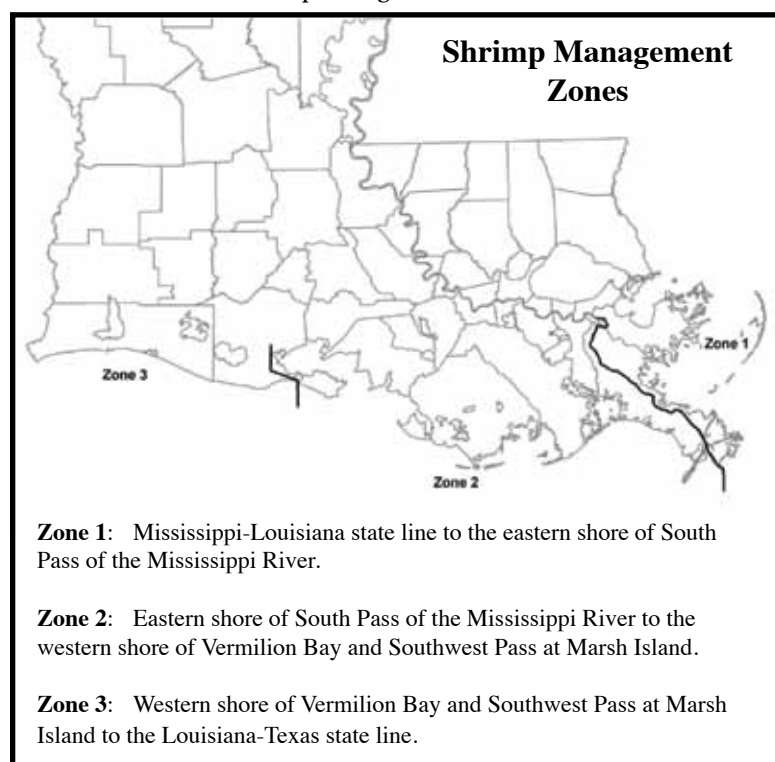
2008- Fall Inshore Shrimp Season

- Opened on Aug. 11, 2008 at noon.
- Closed Dec. 16, 2008 at official sunset except for that portion of Shrimp Management Zone 1 extending north of the south shore of the Mississippi River Gulf Outlet, including Lake Pontchartrain and Lake Borgne and the open waters of Breton and Chandeleur Sounds as described by the "double-rig line."
- Closed Jan. 23, 2009 at official sunset except for the open waters of Breton and Chandeleur sounds as described by the "double-rig line."

FIGURE 1. Marine Fisheries Division Coastal Study Areas



FIGURE 2. Louisiana Shrimp Management Zones



- Breton and Chandeleur sounds remained open to shrimping until March 31, 2009 at 6 a.m.

2009 - Spring Inshore Shrimp Season

- Opened on May 11, 2009 at 7:30 a.m. only in the open waters of Breton and Chandeleur sounds as described by the "double-rig line."
- Opened on May 18 at 7:30 a.m. in the remainder of Zone 1.
- Closed on June 30, 2009 at 6 a.m. except for Lake Pontchartrain including Rigolets Pass from the mouth of Lake Pontchartrain extending eastward to the western side of the CSX Railway Bridge; Chef Menteur Pass from the mouth of Lake Pontchartrain southeasterly to the mouth of Lake Borgne; that portion of Mississippi Sound beginning at a point on the

Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 09 minutes 39.6 seconds north and longitude 89 degrees 30 minutes 00.0 seconds west; thence due south to a point at latitude 30 degrees 05 minutes 00.0 seconds north and longitude 89 degrees 30 minutes 00.0 seconds west; thence southeasterly to a point on the western shore of Three-Mile Pass at latitude 30 degrees 03 minutes 00.0 seconds north and longitude 89 degrees 22 minutes 23.0 seconds west; thence northeasterly to a point on Isle Au Pitre at latitude 30 degrees 09 minutes 20.5 seconds north and longitude 89 degrees 11 minutes 15.5 seconds west, which is a point on the double-rig line as described in LA R.S. 56:495.1(A)2; thence northerly along the double-rig line to a point on the Louisiana-Mississippi Lateral Boundary at latitude 30 degrees 12 minutes 37.9056 seconds north and longitude 89 degrees 10 minutes 57.9725 seconds west; thence westerly along the Louisiana-Mississippi Lateral Boundary to the point of beginning; and the open waters of Breton and Chandeleur sounds as described by the "double-rig line."

- Closed on July 11, 2009 at 6 a.m. except for Mississippi, Breton and Chandeleur sounds as described above.

Shrimp Management Zone 2

Offshore territorial waters south of the inside/outside shrimp line from the eastern shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude to the U.S. Coast Guard (USCG) navigational light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude were closed to shrimping on Dec. 16, 2008 at official sunset.

Offshore territorial waters south of the inside/outside shrimp line and east of the Atchafalaya River Ship Channel at Eugene Island as delineated by the river channel red buoy line to the USCG navigational light off the northwest shore of Caillou Boca at 29 degrees 03 minutes 10 seconds north latitude and 90 degrees 50 minutes 27 seconds west longitude reopened to shrimping April 13, 2009 at noon.

Offshore territorial waters south of the inside/outside shrimp line and west of the Atchafalaya River Ship Channel at Eugene Island as delineated by the river channel buoy line to the western shore of Freshwater Bayou Canal at 92 degrees 18 minutes 33 seconds west longitude reopened to shrimping on May 11, 2009 at 7:30 a.m.

2008 - Spring Inshore Shrimp Season

- Opened on May 12, 2008 at noon.
- Closed on June 24, 2008 at 6 a.m. in a portion of Shrimp Management Zone 2 extending from the Atchafalaya River Ship Channel at Eugene Island as delineated by the channel red buoy line to the western shore of Bayou Lafourche
- That portion of Zone II extending from the Atchafalaya River Ship Channel at Eugene Island as delineated by the channel red buoy line westward to the

western shore of Vermilion Bay and Southwest Pass at Marsh Island and from the western shore of Bayou Lafourche eastward to the eastern shore of South Pass of the Mississippi River closed on Monday, June 30, at 6 a.m.

2008 - Fall Inshore Shrimp Season

- Opened on Aug. 11, 2008 at noon.
- Closed on Dec. 16, 2008 at official sunset.

2009 - Spring Inshore Shrimp Season

- Opened on May 11, 2009 at 7:30 a.m.
- Closed on June 22, 2009 at 6 p.m.

Shrimp Management Zone 3

2008 - Spring Inshore Shrimp Season

- Opened on June 2, 2008 at noon.
- Closed on July 1, 2008 at 6 a.m. except for that portion of the Calcasieu Ship Channel originating at a line between Channel Markers 85 and 86 thence southward to a point originating along the inside/outside shrimp line at Calcasieu Pass as described in LA R.S.56:495(A) and including East Pass from its origin at the Calcasieu Ship Channel to the south end

FIGURE 3. Louisiana Commercial Shrimp Landings

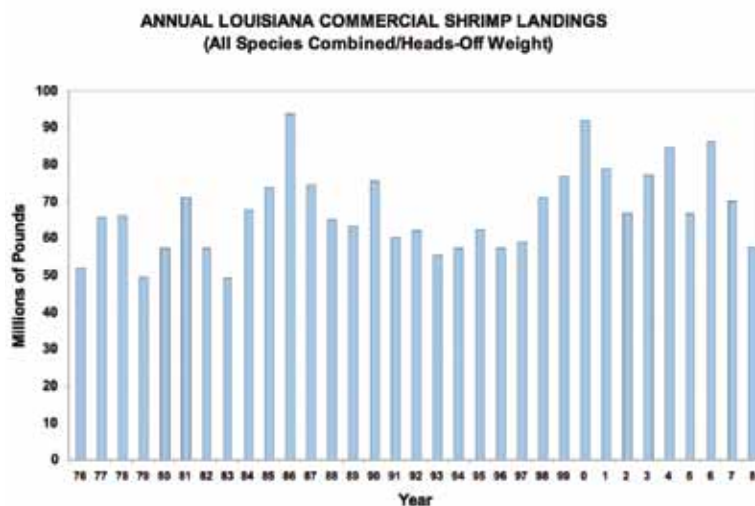
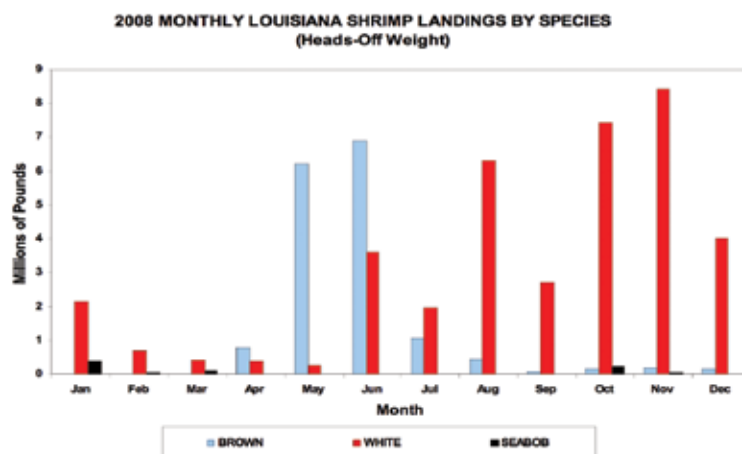


FIGURE 4. Louisiana Monthly Shrimp Landings by Species



of Calcasieu Lake and West Pass from its origin at the Calcasieu Ship Channel to the south end of West Cove.

- That portion of the Calcasieu Ship Channel as described above remained open to shrimping through the end of the 2008 fall inshore shrimp season.

2008 - Fall Inshore Shrimp Season

- Opened on Aug. 11, 2008 at noon.
- Closed on Dec. 16, 2008 at official sunset.

2009 - Spring Inshore Shrimp Season

- Opened on May 25, 2009 at 7:30 a.m.
- Closed on July 11, 2009 at 6 a.m.

Commercial shrimp landings since 1976 have ranged from a high of 93.7 million pounds (heads-off weight/ all species combined) reported in 1986 to 49.4 million pounds landed in 1983 (*Figure 3*). Brown shrimp landings in 2008 were greatest during May, June and July while white shrimp production peaked in October at nearly 8 million pounds. Seabob landings were highest during late fall and early winter (*Figure 4*).

FEDERAL AID PROJECTS

The Marine Fisheries Division has also continued the administration of a \$148,298 federal grant (Interjurisdictional Assessment and Management of Louisiana Coastal Fisheries -NOAA/DOC Award No. NA07NMF4070050). The objective of the Interjurisdictional Fisheries Project is to maintain a coast-wide monitoring program for parameters relevant to important fisheries resources, including both population dynamics and associated hydrological and environmental parameters, and to use information gathered to make rational management decisions. Technical, biological and hydrological data gathered from the monitoring program were utilized in establishing seasonal frameworks within the shrimp and oyster fisheries, predicting annual Gulf menhaden (*Brevoortia patronus*) abundance and providing data for the management of groundfishes and blue crabs (*Callinectes sapidus*). These data have provided estimates of size, density and growth of juvenile penaeid shrimp on the nursery grounds and staging areas, movement of sub-adult shrimp from the nursery grounds to staging areas, and the abilities to correlate juvenile shrimp response and subsequent production to hydrologic conditions. Data collected from the monitoring program were crucial in establishing opening and closing dates for shrimp seasons within Louisiana inside and outside territorial waters during the fiscal year. Hydrological and biological data collected on oyster recruitment (spat set) and oyster density and availability estimates were used in formulating management recommendations regarding the oyster season on the public oyster seed grounds and seed reservations. Harvest estimates were determined from boarding report surveys of boats fishing the public seed grounds and seed reservations. These data were compared with annual stock availabilities and previous production estimates calculated during the fiscal year.

CRABS

Louisiana commercial blue crab landings for 2008 totaled approximately 41.6 million pounds and had a dockside value of approximately \$32 million. Blue crab landings in 2008 represent a 5 percent decrease from 2007 landings of approximately 43.9 million pounds (*Figure 5*). A major issue in the fishery is the low prices associated with increased foreign imports of cheaply priced fresh and frozen crabmeat.

Stone crab landings for 2008 were 2,085 pounds valued at \$6,182 dockside. The stone crab fishery in Louisiana is not a directed fishery, and stone crabs are primarily taken as incidental bycatch within the blue crab fishery. Variations in annual stone crab landings are primarily due to salinity levels with higher abundance associated with dry years and higher salinities.

The major LDWF activity related to blue crabs in 2008-2009 was the removal of derelict crab traps from coastal waters under the Abandoned Crab Trap Removal Program. Legislation introduced by LDWF in 2003 gave the Wildlife and Fisheries Commission the authority to establish a derelict crab trap removal program.

The 2009 derelict crab trap removal program deviated from the 2004-2008 formats, which were volunteer-based and associated with crab trap closures for fishermen within defined geographical areas and time periods through rules adopted by the Wildlife and Fisheries Commission. Under the previous formats, crab traps remaining in the closure areas during the closure period were considered abandoned and could be retrieved by anyone.

Marine Fisheries Division biologists based from the Houma Area Field Station conducted abandoned crab trap removal operations during February and March resulting in the removal and disposal of 788 derelict crab traps. Traps were removed in portions of Lake Mechant, Caillou (Sister) Lake, Lost Lake and Bayou Terrebonne located in Terrebonne Parish and Little Lake located west of Leeville in Lafourche Parish. LDWF reasoned that a crab trap

FIGURE 5. Louisiana Commercial Blue Crab Landings

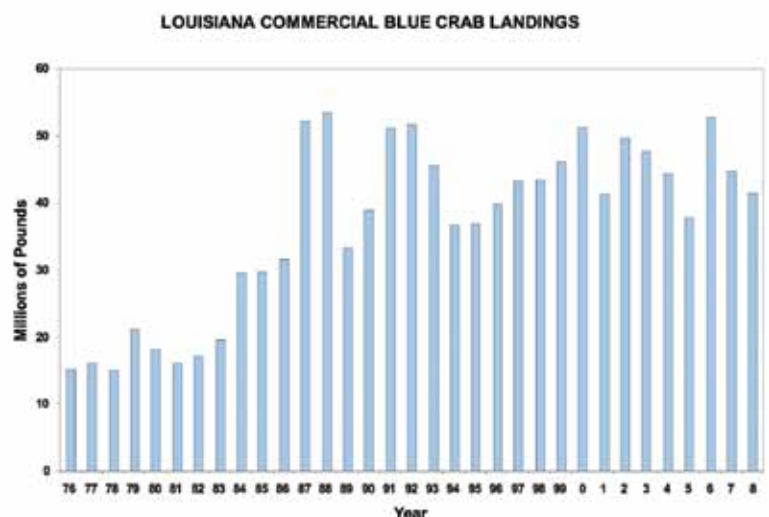


TABLE 3. Derelict Crab Trap Program

Year	Traps	Boat Days*
2004	6,894	90+
2005	4,623	51+
2006	2,935	31
2007	1,498	14
2008	1,234	3
2009	788	0
2004-2009	17,972	191+

*Public volunteers only

closure was not warranted in 2009 which minimized impacts to crab fishermen and program administrative costs. LDWF utilized an approach that focused on removing derelict crab traps in waters frequently traveled by fisheries biologists while conducting biological sampling and monitoring.

The 2010 program will return to the original format, and LDWF hopes to stimulate renewed interest from volunteer participants.

A total of 17,972 derelict crab traps have been removed from Louisiana coastal waters during the first six years of crab trap cleanups (Table 3). Volunteer effort was 191+ boat-days; not included is effort by LDWF.

The Louisiana Crab Task Force continued to meet and address issues confronting the industry. Legislation supported by the task force and approved during the spring 2008 legislative session established an out-of-state crab shipping fee with proceeds dedicated to promotion and marketing of the crab industry. The Crab Task Force also continued discussions on a variety of topics such as certification of the Louisiana blue crab fishery under the Marine Stewardship Council, fisheries disaster assistance, crab bait availability, impacts of crabmeat imports and legislation impacting the crab industry. The Crab Task Force also continued planning an education day for state legislators.

SPECIAL BAIT DEALER PERMIT PROGRAM

A total of 43 Special Bait Dealer permits were issued to licensed wholesale/retail seafood dealers for the sale of live bait shrimp during 2008. This report summarizes only those data collected on submitted catch reports. According to permit catch reports, a total of 1,368,806 live brown and white shrimp (*Farfantepenaeus aztecus* and *Litopenaeus setiferus*) and 387,217 Atlantic croaker (*Micropogonias undulatus*) were harvested by dealers during the permit period. The number of live shrimp and live croaker harvested during the 2008 permit period represents increases of 9 percent and 36 percent, respectively, from levels reported last year.

Although the number of permits issued in 2008 was comparable to those issued in 2007, changes to special bait dealer regulations ratified in 2007 may have accounted for the increased number of shrimp and croaker harvested.

Under provisions in LAC: VII.329, the special bait dealer program now allows for the harvest of croaker and the optional use of skimmer nets to harvest live shrimp and croaker.

Assuming retail values of \$0.25 for live shrimp and \$0.30 for live croaker, the total estimated dockside value of live shrimp and croaker marketed by permitted bait dealers during the permit period was approximately \$342,201 and \$116,165, respectively. In addition, retail sales of dead shrimp marketed by permittees brought the total estimated value of reported live bait sales during the permit period to approximately \$461,840.

MOLLUSC MANAGEMENT

The Mollusc Program is responsible for the oyster resource on nearly 1.7 million acres of public oyster seed reservations, public seed grounds and public oyster areas. Seed grounds are designated by the Wildlife and Fisheries Commission and include a large continuous area east of the Mississippi River, as well as areas of the Vermilion/Cote Blanche/Atchafalaya Bay system. Seed reservations and the public oyster areas of Calcasieu and Sabine lakes, are designated by the legislature. LDWF manages four seed reservations, including one east of the Mississippi River (Bay Gardene), one in the Barataria Bay system (Hackberry Bay) and two in Terrebonne Parish (Sister Lake and Bay Junop).

Commercial oyster harvest in Louisiana is typically accomplished using large dredges (no greater than 6 feet wide) pulled behind oyster vessels called "luggers." Most of the commercial harvest from public oyster seed grounds occurs on the public grounds east of the Mississippi River in St. Bernard and Plaquemines parishes. Seed grounds and reservations are managed with the goal of providing seed oysters for transplant onto private oyster leases (Figure 6). However, two "Sacking Only Areas" exist east of the Mississippi River for the exclusive harvest of sack-sized oysters:

1. Portions of Lake Fortuna and Lake Machias
2. American/Long Bay

Mechanical dredge harvest in Calcasieu Lake mirrors the dredge harvest in other parts of the state with the exception of dredge size, as Calcasieu dredges are limited to 36 inches in width. On occasion, however, harvest in Calcasieu Lake is accomplished using traditional hand-tongs. Poor water quality has prohibited harvest in Sabine Lake for many years due to public health concerns, and all oyster harvest in the southwest portion of Louisiana comes from Calcasieu Lake.

These public oyster areas are utilized heavily by the commercial oyster industry, and periodic reef rehabilitation projects (cultch plants) help maintain the productivity of the public grounds. During fiscal year 2008-2009, federal hurricane disaster funds coupled with state funding allowed cultch planting projects to be undertaken in portions of the Mississippi Sound (St. Bernard Parish), Black Bay (Plaquemines Parish), Lake Chien (Terrebonne Parish), Sister Lake (Terrebonne Parish) and Calca-

sieu Lake (Cameron Parish). Cultch planting provides settlement surfaces for the attachment of larval oysters by placing suitable hard material on the water bottoms (*Figure 7*). These projects placed roughly 87,000 cubic yards of crushed concrete and limestone rock on suitable water bottoms in these areas in May/June 2009. Specific information on the federally-funded cultch plants in Mississippi Sound, Black Bay, Lake Chien and Sister Lake can be found within the federal hurricane disaster project sections. The state-funded cultch planting project in Calcasieu Lake was accomplished in the southern portion of the lake in May 2009 by Luhr Bros., Inc under contract to LDWF. This project consisted of placing approximately 7,500 cubic yards of limestone on approximately 15 acres of water bottoms. The site was selected to rehabilitate an area that had been impacted by a recent oil and gas development project. That project dredged an access channel for the purpose of moving heavy equipment into Calcasieu Lake to install a liquefied natural gas pipeline. The access channel impacted existing reef resources and the cultch plant served to rehabilitate the impacted reef habitat.

Biological monitoring of the cultch plants began immediately and showed the presence of a successful spat (juvenile oysters) set at each location. Biological sampling of previous, federally-funded cultch plants performed in May 2007 and May 2008 showed how successful cultch plantings can be in terms of oyster production, as it was estimated that approximately 121,000 barrels (one barrel = two sacks) of seed and market-size oysters were available on these newly-constructed reefs (see "Biological Monitoring of Existing Cultch Plants" for more information).

Oysters provide an economic benefit to the state, and the ecological benefits of oyster reefs are very important as well. Oysters are biomonitors of the overall health of the ecosystem and provide forage and shelter habitat for a variety of fish and invertebrate species. Oysters also affect water quality through filter-feeding activities, affect estuarine current patterns and may provide shoreline stabilization. Because oysters are so economically and ecologically important, wise management of the public oyster resource is critically important to ensure that this valuable species continues to thrive in Louisiana's coastal areas.

State laws mandate that LDWF open the oyster season on Louisiana public seed grounds on the first Wednesday following Labor Day of each year and close these areas no later than April 30 of each year. However, the Louisiana Wildlife and Fisheries Commission is authorized to extend the season beyond April 30 provided sufficient stocks are available for harvest. The Secretary of LDWF may close seasons on an emergency basis if oyster mortality occurs, or delay the season or close areas where significant spat catch has occurred with good probability of survival, or if excessive amounts of shell in seed oyster loads occur. Management practices often use rotational openings of the four Oyster Seed Reservations in alternating years. A law change during the 2008 Louisiana Legislative Session requires that the public grounds only

FIGURE 6. Louisiana Oyster Leases

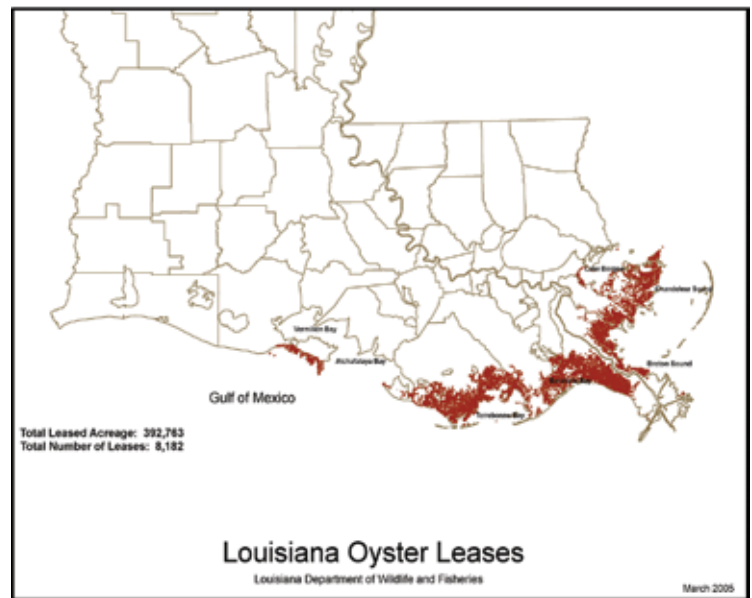


FIGURE 7. Reef building activities in Black Bay, May 2009



be opened to the taking of seed oysters between the first Wednesday following Labor Day and the second Monday in October. The seed grounds can then also be opened to the taking of market-size oysters on the second Monday in October, as well as for harvesting seed oysters.

Management of the public oyster grounds and reservations (*Figure 8*) relies heavily upon data gathered through a comprehensive monitoring program. This program provides quantitative and qualitative data on oyster populations and other reef-associated animals. Approximately 190 square-meter samples are collected each July, and over 150 dredge samples are collected from March through October. Square-meter data are collected using SCUBA and the data are used to measure the annual oyster stock size and for yearly season recommendations by LDWF. Dredge data are used to monitor the overall health of the oyster resource during the year and to assess recruitment of new age classes of oysters into the population. Field biologists also gather hydrological data on

public oyster areas and develop harvest and fishing effort estimates by conducting boarding report surveys of oyster boats.

Unequaled in oyster production over recent years, Louisiana regularly leads the nation in the production of oysters and accounted for an average of 34 percent of the nation's oyster landings from 1997-2007 (Figure 9). Among Gulf of Mexico states, Louisiana consistently ranks #1 in landings accounting for over 50 percent of all oysters landed.

Oysters have been a significant part of the Louisiana economy for many years and routinely have a total economic impact on the state's economy of roughly \$300 million. In 2008, the dockside value of oysters was the second-highest on record, totaling just under \$40 million, and harvest yielded approximately 12.8 million pounds of meat (LDWF Trip Ticket Data). This valuable resource is harvested from a variety of locations from bays to bayous and throughout the coast of the state. In addition, oyster landings in Louisiana are divided between harvest from public oyster areas and private oyster leases.

Historically, landings from private leases have comprised 60 percent to 80 percent of annual Louisiana oyster landings, but in 2008 only 53 percent of all oysters harvested in Louisiana came from private leases. Clearly, the public oyster grounds continue to significantly contribute to annual statewide oyster landings, as landings in 2008 measured nearly 6 million pounds of oyster meat (Figure 10). In addition, much of the oyster production from the private leases is dependent upon small seed oysters (less than 3 inches) transplanted from the public grounds to the leases to be grown out for ultimate harvest at a legal and marketable size.

The oyster season on the public grounds generally runs from September to April (Table 4), but may be extended only after approval by the Louisiana Wildlife and Fisheries Commission. In 2008-2009, the oyster season opened in early September and was scheduled to close on April 30, 2009. However, low resource availability and heavy harvest pressure necessitated an early closure of most of the public oyster grounds (excluding the Vermilion Bay area and Calcasieu Lake) on March 14, 2009. Despite the early closures, it was estimated that nearly 425,000 barrels of oysters were harvested from the public oyster seed grounds during the 2008-2009 oyster season.

In 2008, the annual stock assessment report (July 2008) estimated that over 2.1 million barrels of oysters (both seed and sack combined) were available on the public oyster grounds throughout the state. This represented a slight overall decrease from 2007 levels (Figure 11). This oyster resource, which was available prior to the beginning of the 2008-2009 oyster season, was further reduced by natural forces when hurricanes Gustav and Ike moved through the coastal area in September 2008, with Gustav making a direct hit near Cocodrie, La. in Terrebonne Parish. As with strong tropical events in past years, oyster reefs were impacted through direct burial by sediment and vegetative overburden. Primary public seed grounds east

FIGURE 8. Louisiana Public Oyster Areas

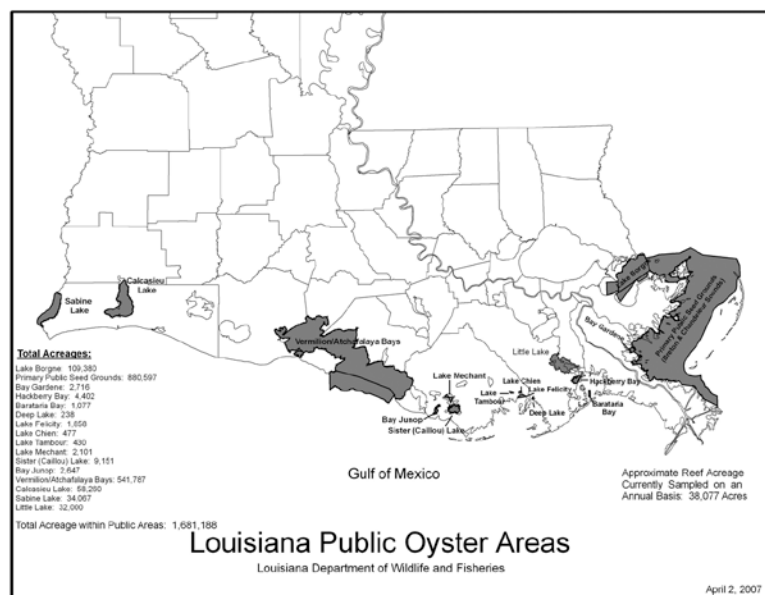


FIGURE 9. 2006 landings of Eastern oysters (*Crassostrea virginica*) in pounds of meat.

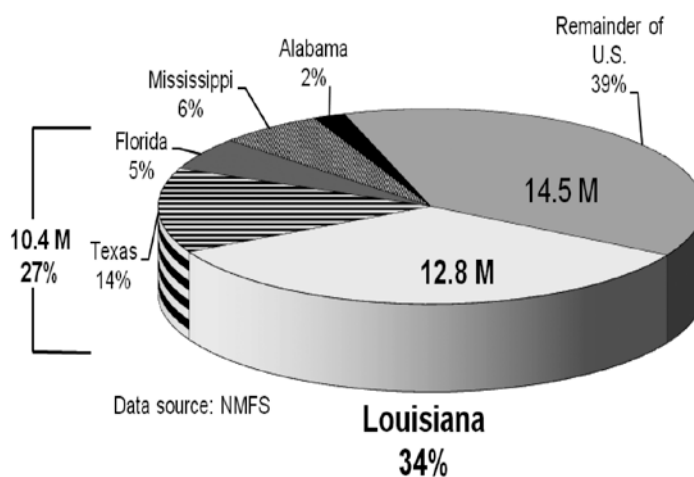
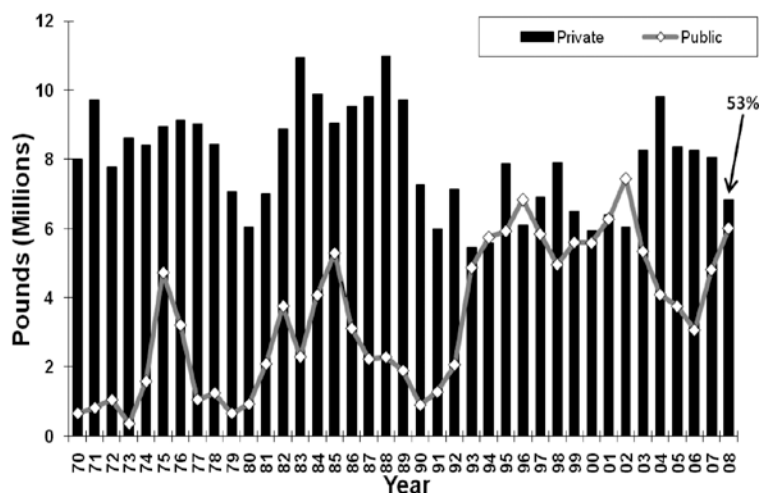


FIGURE 10. Historical Louisiana oyster landings (pounds of meat) divided between public grounds and private leases.



of the Mississippi River showed combined seed and sack mortalities as high as 27 percent on some reefs in St. Bernard Parish. As expected based on the location of Gustav's landfall, the central coast reefs suffered larger impacts as combined seed and sack oyster mortalities reached as high as 75 percent on selected reefs; although Sister Lake oyster mortalities remained below 27 percent in samples taken on a weekly basis following the storms.

Additional Mollusc Program Projects

Side-Scan Sonar and Water Bottom Assessments

Plans were also finalized during fiscal year 2008-2009 for a side-scan sonar and water bottom assessment of selected portions of Mississippi Sound to assist with both shrimp and oyster management programs. Bid packages were released to the public during fiscal year 2008-2009 with the project planned for completion during the following fiscal year. This project was funded by the federal Southeast Area Monitoring and Assessment Program (SEAMAP) and will provide critical habitat mapping and bathymetry information for fisheries management purposes.

Administration of Public Oyster Seed Ground Vessel Permit and Vessel Permit Appeals Board

During the 2008 Louisiana regular legislative session, the Louisiana oyster industry supported the passage of a new law that required any vessel harvesting oysters from the public oyster seed grounds and reservations, excluding Calcasieu and Sabine lakes, to hold a Public Oyster Seed Ground Vessel Permit. The law further established qualifying criteria that a vessel owner must meet in order to obtain the permit, thus establishing a limited entry program for the public oyster seed grounds. The law also established a Seed Ground Vessel Permit Appeals Board to hear appeals of permits denied by LDWF. Although LDWF Licensing issues these permits, it took a concerted effort of the LDWF Licensing, Legal and Marine Fisheries staff to review and qualify vessel owners for these permits. By law, permit applications shall only be accepted by LDWF until Dec. 31, 2009. In addition, Oyster Program staff planned, coordinated and oversaw the Seed Ground Vessel Permit Appeals Board. The appeals board held its first meeting on March 31, 2009, and held subsequent meetings in May and June 2009, hearing at total of 10 appeals during fiscal year 2008-2009.

OYSTER LEASING

The moratorium on the issuance of new oyster leases, at the request of Louisiana Department of Natural Resources, remained in effect throughout fiscal year 2008-2009. The moratorium was requested in order to reduce the state's liability related to coastal restoration efforts. This moratorium does not affect lease renewals, and 589 renewal applications were processed.

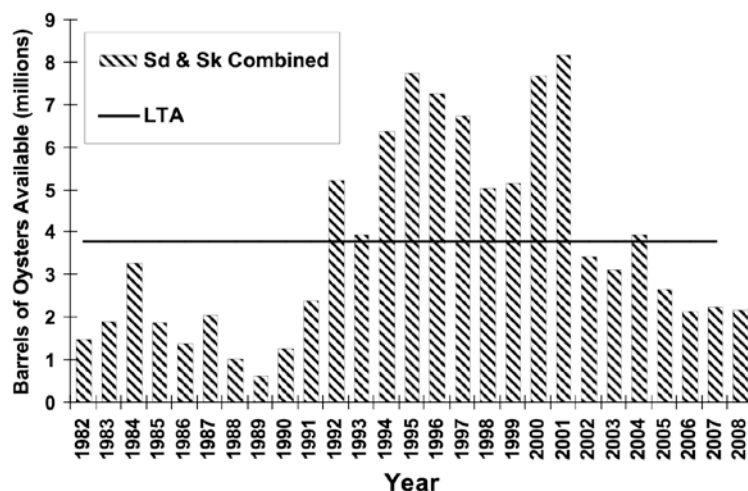
The Oyster Lease Survey Section office is currently located at the University of New Orleans Advanced Technology Center, 2021 Lakeshore Drive, Suite 400. The section continues to maintain a Web site, which provides information to the public about oyster leasing in Louisiana. This Web site contains a searchable Geographic Information System with background maps, DHH closure

TABLE 4. 2007-2008 Oyster season dates

Public Oyster Areas	Season Opening	Season Closure
Lake Borgne Public Oyster Seed Ground and that portion of the Primary Public Oyster Seed Grounds east of the Mississippi River bordered on the north by the Mississippi-Louisiana state line and on the south by the Mississippi River Gulf Outlet (MRGO)	Sept. 3, 2008	Oct. 6, 2008
	Oct. 13, 2008	March 14, 2009
That portion of the Primary Public Oyster Seed Grounds east of the Mississippi River bordered on the north by the MRGO and on the south by the Mississippi River and North Pass including the sacking only area of the public grounds which is generally Lake Fortuna and Lake Machias to a line from Mozambique Point to Point Gardner to Grace Point at the MRGO	Sept. 3, 2008	Oct. 6, 2008
	Oct. 13, 2008	March 14, 2009
Bay Gardene Public Oyster Seed Reservation	Sept. 3, 2008	Oct. 6, 2008
	Oct. 13, 2008	March 14, 2009
Hackberry Bay Public Oyster Seed Reservation	Sept. 3, 2008	March 14, 2009
Little Lake Public Oyster Seed Ground	Sept. 3, 2008	March 14, 2009
Sister Lake Public Oyster Seed Reservation	Sept. 3, 2008*	Sept. 10, 2008
	Oct. 13, 2008	Oct. 19, 2008
Bay Junop Public Oyster Seed Reservation	Oct. 29, 2008	Oct. 31, 2008
Lake Mechant Public Oyster Seed Ground	Oct. 29, 2008	Oct. 31, 2008
Lake Chien Public Oyster Seed Ground	Oct. 29, 2008	Oct. 31, 2008
Lake Felicity Public Oyster Seed Ground	Oct. 29, 2008	Oct. 31, 2008
Vermilion, East and West Cote Blanche and Atchafalaya Bay Public Oyster Seed Ground	Sept. 3, 2008	April 30, 2009
Calcasieu Lake Public Oyster Area	Oct. 15, 2008	April 30, 2009
Lake Tambour, Barataria Bay and Deep Lake Public Oyster Seed Grounds; Sabine Lake Public Oyster Area	Season Remained Closed	

* Health closures by the Department of Health and Hospitals in response to hurricanes Gustav and Ike prevented harvest during this season and an additional season in October was, thereby, allowed to occur.

FIGURE 11. Annual oyster stock size on the public oyster grounds as estimated from biological sampling.



lines, a database of current leases, landings and harvest statistics and recent news articles about oysters. The Web site has had thousands of visits since it was developed and placed on the web in March 1998, and is available at: <http://oysterlease.wlf.la.gov/oyster/>.

FINFISH MANAGEMENT

The primary objective of the finfish program is to make rational recommendations for the management of coastal finfish stocks based on a database of scientific information. The information in the database is collected through fishery independent and fishery dependent sampling. These programs are cooperative with National Oceanic and Atmospheric Administration (NOAA) Fisheries and the Gulf States Marine Fisheries Commission (GSMFC). The fishery independent monitoring program is an ongoing collection of data by LDWF biologists in the field conducting surveys designed to sample coastal waters in an objective manner. Such surveys collect information based on geographic ranges independent of commercial or recreational fishing operations. The fishery dependent monitoring program collects information from fishers, processors and observers based on methods developed by the National Marine Fisheries Service (NMFS) for similar programs.

Fishery Independent Monitoring

A comprehensive monitoring program was developed in 1985 to protect or enhance these valuable resources by providing information regarding the status of fish stocks that occur in the coastal waters of Louisiana at some time during their life cycle. Three gear types are used coast-wide to sample various year classes of estuarine dependent fish.

A bag seine is used to sample young of the year and provide information on growth and movement. A gill net is used to sample juvenile, sub-adult and adult fish and provides information on relative abundance, year class strength, movement and gonad condition. A trammel net is used to provide information on relative abundance, standing crop and movement. Gill net samples are collected semi-monthly from April through September, and monthly from October through March using a strike net technique. The gill nets are set in a crescent shape, open towards the shoreline and then circled several times by the sampling boat, driving those animals present into the net. Trammel net samples are taken monthly from October through March. Seine samples are taken monthly from January through August, and semi-monthly from September through December. Hydrological data (conductivity, salinity and water temperature) are collected with each biological sample, as are wind direction and speed. Samples are collected at specific locations arranged in such a manner so as to cover the beach, mid-marsh and upper marsh areas of all major bay systems throughout coastal Louisiana. The catch and hydrological information is summarized for each Coastal Study Area on a monthly basis to give resource managers information on the current condition of the resource. The pertinent life history information for the important species is also used in developing analytical and predictive models. During fiscal

year 2008-2009, 692 (98 percent) seine samples, 802 (99 percent) gill net samples and 244 (99 percent) trammel net samples were completed for a 99 percent completion rate.

Management recommendations based upon these observations and other information follow.

2008-2009 Finfish Management Actions, Impacts and Recommendations

July 2008

- Commercial king mackerel season opened on July 1 at 12:01 a.m.

August 2008

- Recreational red snapper season closed on Aug. 5 at 12:01 a.m.
- Modify minimum size for gray triggerfish from 12 inches total length to 14 inches fork length; Recreational size limit for greater amberjack increased from 28 inches total length to 30 inches total length, and no harvest allowed by captain and crew of vessels under charter, effective on Aug. 11 at 12:01 a.m.

September 2008

- Commercial and recreational shark harvest rules temporarily modified, effective Sept. 11 at 12:01 a.m., to be in effect for 2009 commercial shark season.

October 2008

- Rule to require non-stainless circle hooks when fishing for reef fish with natural baits. De-hooking devices and venting tools to be available on vessels fishing for reef fish effective on Oct. 20.

November 2008

- Commercial deepwater grouper and tilefish re-open from Nov. 1 at 12:01 a.m. until Nov. 11 at 12:01 a.m.

January 2009

- Secretary provided with authority to close commercial seasons of reef fishes if quota for species group is filled in federal waters.
- Set recreational creel limit for gag to two per person, with closed season of Feb. 1 - March 31, 2009.
- Set 2009 king mackerel commercial season; Provide Secretary with authority to close commercial season for king mackerel if quota for species is filled in federal waters.
- Commercial large coastal shark season opened on Jan. 23 at 12:01 a.m., concurrently with adjacent federal waters.

February 2009

- Present 2009 stock assessment for striped mullet to the Wildlife and Fisheries Commission and Legislature.

March 2009

- Commercial king mackerel season closed on March 27 at noon.

April 2009

- Recreational and commercial shark seasons closed from April 1 at 12:01 a.m. until June 30.
- Permanent rules established on recreational and commercial harvest of shark on April 20, to remain compatible with newly-modified federal rules.
- Rules established for voluntary reporting of charter boat trips on April 20.

May 2009

- Commercial fisheries for deepwater groupers and tile-fishes closed at 12:01 a.m.

June 2009

- Commercial large coastal shark season closed in state waters. Had been closed on April 1, but this action continued closure until 2010 season opens.

LDWF's program on fishery management interacts with other LDWF, state, regional and national issues. The programs contribute to the Gulf and Atlantic Aquatic Invasive Species Task Force that engenders cooperation on these issues for states from South Carolina to Texas and Mexico. It is also part of the Louisiana Aquatic Invasive Species Task Force. It works with the Gulf of Mexico Fishery Management Council Stock Assessment Panel to evaluate the status of fish stocks managed by the council. It works with GSMFC to develop fishery management plans and stock assessments for state-managed fisheries that have inter-jurisdictional management considerations. The program also contributes to LDWF consideration on permitting issues that relate to finfish, including coastal use permits, liquefied natural gas terminals, mariculture and artificial reefs.

- Fishery Dependent Monitoring
- Finfish Stock Assessment
- SEAMAP
- Hydrographic Monitoring: LDWF began collecting constant records of salinity, water temperature, and tide level in 1958. This program continued in 2007-2008, cooperatively between LDWF and the U.S. Geological Survey (USGS). Data are collected from 15 stations located from the Pearl River to Calcasieu Pass; details are shown in *Table 5*. USGS has converted some stations to hurricane resistant hardened platforms to provide more reliable storm surge data across the Louisiana coast.

Field data are collected by USGS, and finished data are provided to LDWF. All sites collect data in near real-time (four-hour lag), and the data are transmitted via satellite from the instrument in the field to the USGS office in Baton Rouge and downloaded to LDWF's database via the Internet. Both internal and external data requests are filled from this database. Once processed, the data are used to support fishery management by, for example, determining how much suitable area of brown shrimp nursery grounds are available each year, and setting season opening dates.

TABLE 5. Data collection stations

LDWF #	USGS #	Station Name	Current Status
105	301001089442600	Bayou Rigolets at LA 90 near Slidell	Online
112	07374526	Black Bay near Snake Island, Point-a-la-Hache, La.	Online
117	3007220891501	Mississippi Sound at Grand Pass	Online
315	073802516	Barataria Pass at Grand Isle	Online
317	07380251	Barataria Bay North of Grand Isle	Online
320	07380335	Little Lake near Cutoff	Online
327	07380330	Bayou Perot at Point Legard near Cutoff	Online
338	073802512	Hackberry Bay NW of Grand Isle	Online
417	073813498	Caillou Bay SW of Cocodrie	Online
518	07381349	Caillou (Sister) Lake SW of Dulac	Online
622	07387040	Vermilion Bay near Cypremont Pt.	Online
623	07387050	Vermilion Bay Bayou Fearman near Intracoastal City	Online
730	08017095	North Calcasieu Lake near Hackberry	Online
731	08017118	Calcasieu River near Cameron	Online
732	08017044	Calcasieu River at I-10 at Lake Charles	Online

FEDERAL AID IN SPORT FISH RESTORATION

The Federal Aid in Sport Fish Restoration Act, commonly referred to as the Dingell-Johnson Act, passed on Aug. 9, 1950, and was modeled after the Pittman-Robertson Act to create a parallel program for management, conservation and restoration of fishery resources. The Sport Fish Restoration program is funded by revenues collected from the manufacturers of fishing rods, reels, lures, flies and artificial baits, who pay an excise tax on these items to the U.S. Treasury. An amendment to the act in 1984 (Wallop-Breaux Amendment) added new provisions by extending the excise tax to previously untaxed items of sport fishing equipment.

Appropriate state agencies are the only entities eligible to receive grant funds. Each state's share is based 60 percent on its licensed anglers (fishermen) and 40 percent on its land and water area. No state receives more than 5 percent or less than 1 percent of each year's total apportionment. The program is a cost-reimbursement program, where the state covers the full amount of an approved project then applies for reimbursement through Federal Aid for up to 75 percent of the project expenses. The state must provide at least 25 percent of the project costs from a non-federal source. During fiscal year 2007-2008, Louisiana used the

marine share of its Sport Fish Restoration Funds in support of the following projects:

Stock Assessment of Louisiana's Important Marine Finfishes, F-97

High quality data for the stock assessment for various species are essential for making management decisions. This project will determine the spawning ratio of the major recreational saltwater finfish in order to comply with legislative mandates that regulatory action be taken when the Spawning Potential Ratio falls below 30 percent. The goal is to ensure that the stocks of these finfish are not over-fished. The spawning potential ratio will be determined using age, growth and fecundity. LSU will assist with the analysis of samples. Marine Fisheries sampling crews obtain otoliths from important marine fish. Additional work is added as needed to address age, growth and reproductive biology of selected finfishes to support stock assessment efforts. This project started on July 1, 1999 and is ongoing. As of June 30, 2009, approximately 41 formal stock assessment reports have been completed as a result of this project.

Louisiana Marine Sport Fish Investigation, Laboratory Acquisition/Development, Southeast Louisiana, F-108

This grant was used to construct a new marine fisheries laboratory facility on a 7.8-acre tract in Grand Isle, La. Project planning started on Sept. 1, 2001. This new laboratory facility replaced the Lyle S. St. Amant Marine Biological Laboratory located on Grand Terre Island. The facility consists of four buildings, including a laboratory/office building, dormitory, workshop with a storage area and covered marina and finally a covered boat hoist. Construction work began on Phase 2 of the project in October 2006 by Circle, Inc. The contractors dredged the marina, installed the sheetpile walls and graded the land. Phase 2 was completed in February 2008. Phase 1 of the project was awarded to Shaw Constructors who began construction on June 4, 2007. Construction was completed in June 2009.

Evaluating Sport Fish Use of Created Wetlands in the Atchafalaya Delta Project (Contracted to LSU) F-107

The objective of this project is to evaluate the sport fish use of submerged aquatic vegetation (SAV) and mudflat habitats in the Atchafalaya Delta. During the year, sampling equipment was tested and developed, and sampling sites were identified in the spring due to hurricanes Gustav and Ike causing the SAV to die. It was determined that the most efficient method of sampling the SAV beds is timed electrofishing transects. Two sampling trips were completed in the spring, and processing of the samples had begun at the end of this segment. Samples have been fully processed for the first trip and partially processed for the second trip.

Continuation of Identifying Essential Fish Habitats in Barataria Bay Project (Joint project with LSU) F-106

The objective of this project is to develop a better understanding of the relationship between wetlands habitats and fisheries productivity in Louisiana, and the efforts to

maintain and restore both. Several studies have been performed to help achieve this objective including a Before-After-Control-Impact study with data collected by LDWF in Breton Sound, Mean Trophic Level Index in the Gulf of Mexico, multivariate analyses relating nekton biomass distributions to habitat characteristics, DIDSON hydro-acoustic data analysis, and tissue analyses of samples collected during fieldtrips on caloric content, isotopes and stomach content, and to model the effect of the diversion using Ecopath with Ecosim software. Further analyses will be performed in the upcoming year pending results from this year's studies.

Marine Sport Fish Tagging Study (Joint project with LSU) F-124

This three-year project will develop an alternative estimate of red drum escapement through a tagging study utilizing a diverse partnership among fisheries scientists and volunteer anglers. Angler education is an important component of this project. LSU is a funding and research cooperator. This project started on July 1, 2004 and was completed June 30, 2007. This project was continued for an additional three years, July 1, 2007 - June 30, 2010.

Sport Fish Utilization of Artificial Reefs vs. Open Water Habitats (Joint project with LSU) F-130-DR

Knowledge of fish assemblages and their behavior around constructed oyster reefs is essential to evaluate the cumulative effects on the community of the original habitat induced by deployment, the potential changes in biomass and site fidelity, and for understanding the relationships between natural and artificial habitats needed for management of available resources. The objective of this project is to evaluate the value of limestone-based inshore artificial oyster reefs as essential fish habitat for important marine sport fish species, associated forage species and benthic invertebrate colonizing species. There were significantly more spotted seatrout at the reef sites than at the mud bottom sites. However, the increase in abundance of spotted seatrout at the reef sites is likely due to increased food availability. In addition, the spotted seatrout were significantly larger at the reef sites. These larger fish are likely due to increased prey availability on the reefs. This research seems to support the anecdotal evidence that fishermen seem to catch more fish at the inshore reef structures, and it is likely that these fish are feeding on those structures.

Fisheries and Habitat Assessment of Bayou St. John, Restoring a Historic Urban Sport Fishery (Joint project with UNO and New Orleans City Park) F-131-R

City Park is a public park located in the heart of New Orleans. It features two historical waterways and a set of man-made lagoons that connect to Lake Pontchartrain. Bayou St. John, Bayou Metairie and the lagoons have an estuarine influence, yet are still fresh enough to harbor freshwater fishes. The objectives of this project are to re-establishing water flow through the Bayou St. John complex to improve water quality and fisheries habitat through plantings and shoreline alteration and determine habitat utilization by sport fish. Preliminary analysis indicate that the sonic-tagged red drum reintroduced to the

system avoid the southern portion of Bayou St. John and are associated with open or moving water in areas closer to Lake Pontchartrain. Also, City Park conducted shoreline planting projects for fisheries habitat improvement and purchased a water quality monitoring system.

SOUTHEAST AREA MONITORING AND ASSESSMENT PROGRAM (SEAMAP)

SEAMAP is a cooperative state, federal and university program for collecting, managing and disseminating fishery-independent biological and environmental data and information in the southeastern United States. Fishery-independent data are collected by fisheries scientists, rather than fishermen. SEAMAP collects data on fish stocks that are managed jointly by the states and federal government and conducts a variety of data collection activities including a Fall Shrimp/Groundfish Survey, Spring Plankton Survey, Reef Fish Survey, Summer Shrimp/Groundfish Survey, Fall Plankton Survey and other plankton and environmental surveys.

LDWF collects samples between the Southwest Pass of the Mississippi River and Pointe au Fer, out to the 120-foot depth contour off the Louisiana coast. Louisiana SEAMAP activities include spring (March-April), summer (June), autumn (September) and winter (December-January) trawl surveys that also collect zooplankton and environmental resource data.

Biological samples are collected using a SEAMAP standard 42-foot trawl to collect juvenile and adult animals. Each trawl station is sampled once during daylight hours and once at night to measure the different animal communities that are present in a daily cycle. Plankton nets are used to sample early life history stages (eggs and larvae) of marine organisms. Environmental data are collected at all stations.

Surveys were conducted aboard the chartered vessel, *Pelican*:

- **Fall 2008 Survey:** Conducted on Sept. 23-26. Nine scheduled daytime and nighttime demersal trawl stations and seven plankton stations were sampled successfully, for a total of 25 samples.
- **Winter 2009 Survey:** Conducted on Jan. 26-29. All 12 scheduled daytime and nighttime demersal trawl stations and four plankton stations were sampled successfully for a total of 28 samples.
- **Spring 2009 Survey:** Conducted on March 15-18. All 12 scheduled daytime and nighttime demersal trawl stations and seven plankton stations were sampled successfully for a total of 31 samples.
- **Summer 2009 Survey:** Conducted June 16-19. Eleven scheduled daytime and nighttime demersal trawl stations and seven plankton stations were sampled successfully for a total of 29 samples.

Data from all sample cruises, including real-time shrimp and red snapper data from the summer cruise, were entered, verified and uploaded to the SEAMAP data management system. SEAMAP data are available by request,

as are the various SEAMAP publications, including environmental and biological atlases of the Gulf of Mexico for each year from 1983 through the present. More information about SEAMAP is available at the GSMFC Web site: <http://www.gsmfc.org/>.

RAPID RESPONSE TO REMOVE INTRODUCED TILAPIA

An established tilapia population (*Oreochromis spp.*) was discovered in a private pond in the Port Sulfur area during the winter of 2008 by LDWF fisheries biologists. Tilapia are considered cold water intolerant, and it was expected that the fish could not survive the winter months. However, spring sampling revealed that the fish did indeed survive the mild winter. In fact, they had spread to both private and public waters throughout the Port Sulfur area.

These fish reproduce several times a year and are mouth brooders, providing parental protection for their young through the early stages of the life cycle. If left uncontrolled, they can overpopulate a system and create competition for native fish. Although tilapia feed primarily on organic material and "muck," they build large nests and compete with native fishes for spawning grounds. Tilapia are successful invaders because of their ability to adapt to undesirable conditions. Louisiana law RS 56:319 makes it illegal to possess, sell or cause to be transported into this state any species of tilapia without first obtaining the written permission of the Secretary of LDWF.

LDWF immediately initiated a rapid response effort to contain the movement of tilapia, understand the extent of the introduction and to develop an eradication effort. A variety of sampling gear, including cast nets, rotenone, lead nets and electrofishing equipment were utilized to sample fish at over 100 sites to determine the presence or absence of tilapia. This information was used to delineate the area where tilapia were found, and subsequently the Secretary of LDWF closed it to all fishing on May 5, 2009. The area in Port Sulfur included all public and private waters within a four mile zone from St. Jude Road to Milan Drive and between the Mississippi River levee and the drainage ditch levee on the marsh side.

The rapid response was organized utilizing an Incident Action Plan format that identified tasks, personnel and logistics for eradicating all fish within the containment zone using rotenone. Approximately 596 acre-feet of water (81 surface acres) were treated with a total of 2,260 gallons of 5 percent rotenone over a seven-week period. Participants in the effort included over 100 individuals representing state and federal agencies, universities, environmental organizations, interested individuals and Plaquemines Parish.

Post monitoring on Aug. 27, 2009, indicated that all fish in the containment zone were eliminated. The final phase of the Incident Action Plan included stocking several predatory fish species including spotted gar (*Lepisosteus oculatus*), bowfin (*Amia calva*), largemouth bass (*Micropterus salmoides*), flathead catfish (*Pylodictis olivaris*) and sunfish (*Lepomis spp.*). LDWF has contracted with the

University of New Orleans and Nichols State University to conduct future monitoring on a quarterly basis for the next two years within the containment zone.

FISHERIES RESEARCH LAB

The Fisheries Research Lab, located in Grand Isle, has a primary mission to conduct the research required to manage Louisiana's marine, estuarine and freshwater fisheries. The laboratory is made available for the use of other LDWF and non-LDWF entities engaged in fisheries research, management, enforcement, coastal restoration and marine education. The lab also serves as a station for Coastal Study Area III in the Barataria Bay estuarine system. The marine laboratory also supports the monitoring of the Freeport Sulfur Mine Reef for the Louisiana Artificial Reef Program, Elmer's Island Wildlife Management Area (WMA) and a local operations center for LDWF enforcement agents.

HABITAT PROTECTION PROGRAMS

Habitat protection programs include Elmer's Island, Davis Pond Monitoring Program, finfish management, shellfish management, oyster management, sea turtle and marine mammal stranding program, Freeport Sulfur Mine Reef and the Sport Fish Tagging Program.

Elmer's Island

The state recently acquired Elmer's Island WMA. This allowed vehicular access to the beach and the road leading to the beach. This property is managed by fisheries research lab employees. Biologists check the beach for turtle and marine mammal strandings, as well as fish kills. In addition, biologists complete Marine Recreational Fisheries Statistics Survey (MRFSS) creel surveys at Elmer's Island Beach.

Davis Pond Monitoring Program

Personnel collect biological and physical data to be used for monitoring the effects of the Davis Pond Water Diversion. These samples include finfish, shellfish, isohaline, creel and Nestier Tray data.

Finfish Management

Fisheries lab personnel assist Coastal Study Area III (Marine Fisheries Division) with fishery dependent and independent data collection. Independent data is collected with LDWF's standardized sampling. Lab personnel sample coastal species with seines at four locations, gill nets at six locations and trammel nets at six locations. These samples are taken at various rates, weekly, biweekly, monthly, etc., during different times of the year. In addition to these standard samples, biologists collect data for a coastal fecundity study on spotted seatrout. Dependent data is collected with the use of MRFSS, Davis Pond Creel surveys and otolith for biostatical information.

Shellfish Management

Fisheries Research Lab personnel assist Coastal Study Area III with the collection of 16-foot and 6-foot trawl samples conducted with LDWF's standardized methodology. Sixteen-foot trawls are used to sample four inshore

sites and four offshore sites. Biologists used 6-foot trawls to sample 10 shallow-water locations.

Mollusc Management

Lab personnel assist Coastal Study Area III with monitoring the oyster boats involved in the Public Oyster Lease Recovery program and collecting oyster fishermen production data in the Boarding Run survey. Biologists also sampled five dredge sites, one cultch reef site and a Bay Ronquille reef site.

Sea Turtle and Marine Mammal Stranding Program

Lab staff are charged with monitoring the beaches and marshes in the vicinity of Grand Isle for dead or live stranded dolphins or sea turtles. Dead turtles or dolphins are located and identified, and a report is sent to the state marine mammal coordinator in Baton Rouge. Live organisms are monitored and experts are called in to rescue and rehabilitate them for later release back into the wild. Beaches in the area are frequently monitored by the staff to locate any turtles or dolphins that have been washed ashore.

Bay Water Quality Samples

Lab personnel collect weekly water quality data in Bayou Rigaud on the bay-side of Grand Isle. This data is collected to assess areas for oyster production potential.

Tag Retention

Tag retention is an upcoming study. The staff tags young spotted seatrout to determine the tag retention rate. Tagged trout will be placed in a holding chamber to investigate the percent mortality and tag retention percentage. This will help to determine the cause of the extremely low recovery rate of tags in young trout. The lab also participates in the Sport Fish Tagging Program. Lab personnel are responsible for tagging spotted seatrout and red drum.

Fish Kills

Biologists investigate fish kills near Grand Isle, La. Public calls or biologist observations require collection of water quality data and fish mortality information.

OTHER RESEARCH PROJECTS

The Fisheries Research Lab is available to team up with researchers from other organizations and universities to conduct research that would serve to enhance the state's fisheries resources, both inshore and offshore. The lab can provide personnel and facilities for various research projects. Laboratory staff are also able to collaborate with visiting professors on various scientific objectives.

LSU Bivalve Hatchery

The Grand Isle Bivalve Hatchery, led by a university scientist, conducts many important experiments for the oyster fishery in the Gulf of Mexico. The hatchery is responsible for trying to develop disease resistant stocks for distributing to oyster leases, produce oyster larvae for seeding on leases and test innovative grow-out techniques. The scientists working on this project use lab space at the Fisheries Research Lab.

Environmental Protection Agency's (EPA) Environmental Monitoring and Assessment Program (EMAP)

Lab biologists collect data for EMAP, which is a program within the EPA. EMAP provides quantitative assessment of the regional extent of environmental problems measuring status and change in selected indicators of ecological condition. EMAP provides a strategy to identify and bound the extent, magnitude and location of environmental degradation and improvement on a regional scale.

STOCK ASSESSMENT

The following projects and activities were conducted during fiscal year 2008-2009 by the Research and Assessment Division's Stock Assessment Group.

INLAND FISHERIES RESEARCH & ASSESSMENT

1. Age and growth assessment of largemouth bass in Louisiana
 - Project proposal completed, sampling methodology provided to district biologist managers (under direction of Joe West)
2. Age and growth assessment of crappie in Louisiana
 - Project proposal completed, sampling methodology provided to district biologist managers (under direction of Joe West)
3. Coordinated freshwater species age and growth data capture protocol with Age and Growth Lab personnel (under direction of Joe West)
4. Age and growth of spotted bass in the Lake Pontchartrain Basin
 - Collected approximately 225 spotted bass using rod-and-reel gear and seines from the Tangipahoa and Amite River drainages. Data collected included stomach contents, length, weight, sex and maturity. Otoliths were removed for age analysis. Brian Alford is lead coordinator, but handed over to District 7 supervisor Brian Heimann to be his special research project.
5. Fish assemblage of the Lake Pontchartrain Basin with emphasis on the broadstripe topminnow (a species of special concern in Louisiana)
 - Sampled water quality, habitat and fish species using seines from approximately 30 stream sites in the Tangipahoa and Amite River drainages. Reference collection of fish species of the basin was initiated. Data on broadstripe topminnows included length, weight and sex.
 - This project is being funded by an award from the State Wildlife Grants program (\$26,000 over two years). Brian Alford is the principal investigator.
6. Fish community analysis of the Barataria Basin
 - Analyzed fish community data collected from 1998-2009 in the Barataria Basin to assess the impact of the Davis Pond freshwater diversion on fish community structure. Data were from electrofishing, gill net and hoop net samples. Results of the analysis were given as an oral presentation at the Annual

Meeting of the American Fisheries Society in Nashville, Tenn. in September 2009 (under direction of Brian Alford).

7. Coordinated with LDEQ by exchanging data for a potential statewide analysis of water quality and fisheries (under direction of Brian Alford).
8. Analysis of special research projects for Inland Division district supervisors
 - Analyzed channel catfish maturity data from Lac Des Allemands and Toledo Bend Reservoir.
9. Managed data for the standardized sampling program and stocking databases by processing data requests and making data corrections and edits.
10. Used habitat and Florida largemouth bass genetics data to help district biologist managers request fish at the 2010 annual stocking meeting.
11. Reviewed and critiqued all water body management plans generated by district biologist managers.
12. Developed creel surveys for district biologist managers at various water bodies.

MARINE DIVISION RESEARCH & ASSESSMENT

Research and Assessment was its own division during the end of this time period.

1. Wrote research proposal entitled "Estimating Effort and Bycatch for the Inshore Shrimp Fishery in Barataria Bay, Louisiana" (Project PIs: James H. Cowan, Shaye E. Sable, Benny L. Galloway). Submitted to Louisiana Sea Grant Program for approximately \$150,000.
2. Wrote research proposal entitled "Evaluating the Regional Stock Status and Population Attributes of Gray Snapper (*Lutjanus griseus*) in Louisiana" (Project PIs: Shaye E. Sable and Myron B. Fischer). Submitted to Cooperative Research Program (NOAA-NMFS-SE-2010-2001762) for approximately \$92,000, and Saltonstall-Kennedy Grant Program (NOAA-NMFS-FHQ-2010-2002039) for approximately \$169,000.
3. Contract with USACE to simulate fish population responses for six tidal marsh species (e.g., grass shrimp, blue crab, gulf killifish) to changing environmental conditions (i.e., salinity, temperature, DO, water levels) due to the Caernarvon Diversion.
 - first round of simulations completed with individual-based model constructed and further developed by Sable and linked to ADH model for the Caernarvon Diversion.
 - Sable attended first project meeting and presented model findings in May 2009

4. Data mining and analysis of LDWF's fisheries independent sampling program (e.g., shrimp trawl data, spotted seatrout in marine gillnets and seines, creel data). Included bootstrapping of spotted seatrout CPUE data from gill nets to determine sample size requirements.
5. Created sample overlay maps showing overlap between Office of Coastal Protection and Restoration, LDEQ and LDWF sample stations (under direction of Ronald Lachica).
6. Fish community analysis of Davis Pond data for streamlining purposes to see if stations and samples can be reduced yet still accurately assess fish community characteristics
7. Maintain contract initiated by Pausina and Hoar with Joe Powers "Assessment Advice on Louisiana Marine Finfishes: Analytical Development, Support and Assessment Research."
 - Powers gave three one-hour seminars to LDWF field biologists on MRFFS and creel data, age and growth data and tagging methods.
 - Sable, Alford, Lachica and West attended three one-day work sessions with Powers on stock assessment modeling (e.g., mortality, catch-at-age, VPA, growth models)

COMMITTEES SERVED ON BY STOCK ASSESSMENT PERSONNEL

1. Brian Alford: Southeast Aquatic Resources Partnership, Science and Data Committee, Habitat Sub-committee, Prioritization Tools Sub-committee
2. Brian Alford: Gulf States Marine Fisheries Commission: Habitat Technical Committee
3. Brian Alford: National Fish Habitat Action Plan, Science and Data Committee
4. Brian Alford: LDWF Natural Areas Preserve Committee
5. Brian Alford: LDWF State Wildlife Grants Committee
6. Brian Alford: American Fisheries Society, Warmwater Streams Technical Committee

RESEARCH PROJECTS

PROBABILITY VERSUS NONPROBABILITY SAMPLING IN LAKE CATAOUATCHE, LA

A study comparing fixed (subjectively chosen) vs. randomly selected electrofishing stations will be conducted on Lake Cataouatche during the spring and fall of 2010. Inland fisheries managers with LDWF currently utilize electrofishing samples collected at subjectively chosen, fixed stations to survey and monitor largemouth bass populations in water bodies across the state. Electrofishing will be conducted using randomly and fixed sites form comparison of statistical strength. Results from the two techniques will be compared to determine which yields the most precise population estimates with the least amount of effort.

ASSESSMENT OF ANGLER EXPLOITATION OF CRAPPIE IN POVERTY POINT RESERVOIR

In 2009, a total of 442 Poverty Point Reservoir white crappie (*Pomoxis annularis*) were tagged with two reward tags each to assess angler exploitation. Tag returns were encouraged by issuing custom caps and entries into a grand prize drawing to all participating anglers. A concurrent creel survey was also conducted to acquire harvest data and determine angler characteristics. Crappies were tagged in both winter and fall to ensure a sufficient number of tags for the peak angling seasons. Over 65 percent of the crappie tagged from January through March were caught and reported by anglers. Of the crappie tagged in the fall (September through October), only 5 percent were returned by Dec. 31, even though the creel survey showed crappie harvest to be high in November and December. Further analysis of the tag/return and creel data will be performed soon. This information will be used to effectively manage the crappie population in Poverty Point Reservoir.

LAC DES ALLEMANDS CATFISH PROJECT & SPOTTED BASS AGE AND GROWTH PROJECT

Currently, District 7 is working on two projects simultaneously. All necessary samples have been collected for the Lac Des Allemands catfish age and growth project. All spines have been pulled, sectioned and read. Age estimates are in the process of being verified. The field work for year one of the Florida stream spotted bass age and growth project has been completed. Fish assemblage samples were collected with spotted bass being the primary target. Otoliths are in the process of being read for 50 spotted bass greater than 6 inches from the Tangipahoa River and 118 spotted bass greater than 6 inches from the Amite River.

CONTRIBUTION TO YEAR CLASS STRENGTH OF HATCHERY REARED LARGEMOUTH BASS IN SMALL UPLAND IMPOUNDMENTS

To determine the recruitment success of individual stockings at different rates, 1,200 hatchery-reared Florida largemouth bass were marked with the antibiotic oxytetracycline (OTC), and stocked into four small impoundments on Fort Polk Joint Training Readiness Center. An additional 3,800 fish were marked simultaneously and held to determine mark retention over time. Five thousand fish were not treated with OTC but were handled identically for use as controls in this study. Prior to stocking in March 2009, the ponds were sampled by electrofishing to determine baseline catch per unit effort (CPUE) of largemouth bass, and subsamples were collected to determine the maximum size of 1-year-old fish (9 inches). Marked fish were stocked in April 2009 with 0 percent transport mortality as determined by holding 25 fish in minnow traps for 24 hours in each pond.

Marked fish held in ponds at Booker Fowler State Fish Hatchery were subsampled at 30 and 200 days post-marking. Otoliths were removed and examined under a fluorescent microscope for OTC marks. We found 100 percent mark retention at 30 (n=26) and 200 (n=30) days. A double blind reader assessment was also conducted at

30 days post-mark by randomly mixing marked (n=4) and unmarked (n=21) largemouth bass resulting in 100 percent accuracy and reader agreement (two readers).

CHANNEL CATFISH SIZES AT MATURITY IN TOLEDO BEND RESERVOIR

Channel catfish were captured using vertically fished hoop nets in two zones of Toledo Bend Reservoir. In quarterly samples, 1,123 specimens were taken from specific sizes corresponding to average length at ages 2 through 6. Length, weight, sexual maturity, sex and gonad weight were taken from specimens, as well as pectoral spines for aging. All spines were sectioned, pictured and aged by three independent readers. Data has been compiled and is being analyzed for length and age at which 50 percent of all fish were sexually mature. Gonad weight is being used to construct a gonad somatic index, as well as length and age data to construct a von Bertalanffy growth model. This data will be used to make future management recommendations for Toledo Bend Reservoir.

MARKING LARGEMOUTH BASS FRY BY FEEDING OXYTETRACYCLINE TREATED ARTEMIA

Brine shrimp (*Artemia sp.*) cysts were hatched in OTC solutions at three different concentrations and fed with each concentration for three days to groups of swim-up fry. These fry were then stocked in one-acre rearing ponds and raised to about 25 mm. When the ponds were harvested, a sample of fish were collected and frozen. About 5,000 fish from each pond were transferred to one-acre earthen ponds at Beechwood Fish Hatchery to grow out to Phase II size. When these ponds were harvested in November, another sample of fish was collected.

Otoliths were successfully extracted from both sizes of bass. An Omano OMFL400 fluorescence microscope was used to attempt detection of the OTC marks. This effort has been unsuccessful so far, but problems with the 100 w halogen light power supply were encountered. A warranty repair of the power supply is being investigated.

2009 PERMITS

Inland Fisheries Division issues a variety of permits to provide individuals a legal method to participate in a specific activity.

FRESHWATER PRAWN PERMIT

Issued to allow individuals to possess, do research on or culture freshwater shrimp/prawns.

Issued: 0

FRESHWATER SCIENTIFIC COLLECTING PERMIT

Used to take fish for scientific research or educational purposes, propagation or distribution.

Issued: 67 permits (to collectors from 11 different states)

TRIPLOID GRASS CARP PERMIT

Used to allow individuals to possess triploid grass carp for aquatic vegetation control in private ponds and lakes.

Issued: 283 permits

TRIPLOID GRASS CARP SELLERS PERMIT

Used to allow individuals to import, transport, possess and sell triploid grass carp to the public.

Issued: 8 permits (to fish hatcheries from six different states)

TILAPIA PERMIT

Used to allow individuals to possess for resale, do research on or culture tilapia.

Issued: 14

EXPERIMENTAL FRESHWATER MINNOW DIPNET

Used to allow individuals to commercially fish for minnows using a specific dip net.

Issued: 0

GAMEFISH FINGERLING PERMIT

Used to allow individuals to transport, possess and sell game fish fingerlings.

Issued: 13 permits (to individuals from six different states)

MUSSEL HARVESTER'S PERMIT

Used to allow individuals to commercially harvest freshwater mussels.

Issued: 1

MUSSEL BUYER'S PERMIT

Used to allow individuals to buy commercially harvested mussels from mussel harvesters.

Issued: 0

SCUBA SPEARFISHING PERMIT

Used to allow individuals to spearfish in Toledo Bend Reservoir June through September.

Issued: 12

ADMINISTRATIVE

The Administrative Section of the Office of Fisheries provides oversight, strategic guidance, interagency collaboration, executive management and administrative support for all of the activities of the Office of Fisheries.

The section includes the Assistant Secretary, Deputy Assistant Secretary and their support staff. During legislative sessions, it is the duty of the Assistant Secretary of Fisheries to attend and testify at weekly committee hearings. During session and throughout the rest of the year, the Assistant Secretary is also expected to meet with key legislators at their request, and is expected to make himself available at their convenience. During the year, the Assistant Secretary is also required to meet with special interest groups, congressional delegate representatives, local officials and other parties with interest in local fisheries.

In the past year, through legislative action and coordination with Louisiana legislators, the Office of Fisheries has successfully worked to see that legislative bills were passed including a bill that will increase boating safety regulations.

The coordination efforts of the Office of Fisheries extend beyond the legislative branch to other state agencies. Over the past year, LDWF has partnered with the Louisiana Department of Transportation and Development to open Elmer's Island Refuge to the public and with the Louisiana Recovery Authority to direct more than \$170 million to fishermen affected by hurricanes Katrina, Rita, Gustav and Ike.

Beyond the legislative duties of this section, the staff concentrates on collaborating with other state-run and third-party agencies to streamline natural resource management, access, opportunity, outreach, promotion, marketing and disaster recovery efforts.

Daily responsibilities for the administrative section fall into the areas of executive management for the Office of Fisheries operational activities. By ensuring that the office activities are in concert with the needs and desires of Louisiana's natural resource beneficiaries, this activity maximizes the citizens return on investment.

Lastly, in its capacity as a support body for the Office of Fisheries, the administrative section is key to achieving the goal of operating the agency with transparency and accountability.